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ABSTRACT

The validity of rehabilitation administration as a specialized field rests on a questionable foundation due to the limited data regarding management personnel within rehabilitation facilities and agencies. A survey of 243 members of the National Rehabilitation Administration Association was conducted to identify work assignments, inservice training needs, and academic preparation. Subjects completed the Rehabilitation Administration Task Inventory (RATI). Data showed that the vast majority of rehabilitation administrators and supervisors were Caucasian, male, and non-handicapped, although the incidence of female and handicapped personnel tended to be higher than in the business community. Only a small percentage of administrators and supervisors had any formal training for their role; most came from the direct service practitioner ranks. All levels reported moderate inservice training needs. A Technical Information Supplement containing the RATI and additional data tables is appended. (Author/JAC)

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Rehabilitation Administrators and Supervisors: Their Work Assignments, Training Needs, and Suggestions for Preparation[1]

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Running Head: Administrator and Supervisor Roles and Functions

Rehabilitation Administrators and Supervisors: Their Work Assignments, Training Needs, and Suggestions for Preparation

There are an estimated number of 12,000-13,000 administrators, managers, and supervisors employed in the field of rehabilitation in the United States (Lorenz, 1977). These individuals primarily work either in state-federal rehabilitation agencies or in approximately 5,000 private, not-for-profit rehabilitation facilities (Lorenz, Graham, Hashey, & Baker, 1981). While their numbers are sufficiently large to warrant a professional status, that status has not been unquestioned. One challenge relates to the existence of a body of knowledge that is unique to the role and function of the rehabilitation administrator. There appears to be general agreement that a quantifiable body of knowledge is, at best, in the process of being identified (McDonald & Lorenz, 1977; Alonso & Autry, 1977). According to Young (1977), while the theory and practice of rehabilitation administration may not be unique, the administrative application requires specialized knowledge and skills to attain rehabilitation specific goals. This is contrary to the position of many schools and colleges of administration that promote the concept of generic management in which a broadly trained administrator is prepared to manage any organization (Suojanen, 1977). Lorenz (1977) has suggested that generic management training programs have failed to respond to the unique management problems of the applied fields and as a result, more specialized areas of administra-

tive training have evolved. Examples of these specialized fields include hospital administration, social work administration, educational administration, and public administration. While rehabilitation administration has recently joined this group, its validity as a specialized field rests on a questionable foundation due to the limited amount of available empirical data regarding management personnel within rehabilitation facilities and agencies. Therefore, it became readily apparent to the current authors that a role delineation study on the rehabilitation administrator was badly needed.

There also appeared to be a pressing need for information on the development and training needs of individuals in rehabilitation administration. The problem of finding qualified individuals to manage the increasing number of rehabilitation facilities and to provide management training for established administrators was not fully realized until the mid-1960's. Prior to that point, a lack of formal preparation and training were not serious problems as many programs were small and accountability was not a major issue (Lorenz & Hill, in press). Since that time, the gap between a rehabilitation administrator's body of knowledge and the amount of information needed to fulfill the management role has continued to widen. This problem has been further exacerbated by a deficiency of management training available and the lack of administrative experience prior to assuming the role (Sawyer & Schumacher, 1980). If the trend to recruit rehabilitation administrators from a pool of direct service practitioners continues, and if these individuals are to

have the necessary skills for their new job role, the preservice and inservice training needed by rehabilitation facility and agency administrators must be fully identified and made available.

In recognition of the fact that a basic knowledge gap existed in the field, the authors decided to conduct a national study designed to delineate both the rehabilitation administrator's job role and functions, and the associated preservice and inservice training needs for such positions. This national survey was directed toward practicing administrators in both state agencies and private, not-for-profit rehabilitation facilities. It was recognized that knowledge generated from such a study could be of value to those involved in developing an academic curriculum for the training and education of rehabilitation administrators. It was also recognized that since a role and function study of the rehabilitation administrator did not exist, results of this study could contribute to the definition of that professional role. Furthermore, the potential results from the study could have relevance for current accreditation activities and provide direction for inservice training efforts.

The following specific research questions were addressed by the current study:

1. What are the job functions of rehabilitation administrators?
2. What are the inservice training needs perceived by rehabilitation administrators?
3. What are the recommendations for preparational curricula of rehabilitation administrators?

Methodology

Sample

Approxomately 1,300 members of the National Rehabilitation Administration Association (NRAA) who resided in the United States and Canada constituted the population for this study. An appropriate random sample size of 426 NRAA members to be surveyed was determined by a formula that assumed a 70% survey return and stipulated an error rate of ± 5% with an alpha level of .05 (Hays, 1963). Each member of the sample was sent a cover letter explaining the nature and purpose of the study and the Rehabilitation Administrator Task Inventory (RATI).[3] Each subject was asked to complete the questionnaire and return it in the stamped, self-addressed envelope provided. Following a 10-day period during which 106 members responded, a follow-up letter was mailed to the remaining 320 subjects in the sample. Seven days after the first follow-up mailing a second follow-up letter and another RATI were sent to the remaining 183 non-respondents. All told, 243 members of the sample (57%) responded yielding a final usable sample of 178 RATI questionnaires.[4] The final sample contained 59 administrators working in non-profit rehabilitation facilities (containing two subsets: 39 top level administrators and 20 middle level administrators) and 119 administrators working in state rehabilitation agencies (containing three subsets: 29 top level administrators, 54 middle level administrators, and 36 first-line supervisors). A brief demographic description of each group follows.[5]

Non-Profit Facility Top Level Administrator. All 10 Rehabilitation Services Administration (RSA) regions were represented ranging from two members in Regions II, VII, VIII, and X to 11 from Region V. Seventy-seven percent were between 30 and 49 years of age. They were predominantly white (92%), male (79%), and non-disabled (87%). The group was relatively well educated with 64% having a master's degree or higher. Yet, only 20% reported to have received formal training in rehabilitation administration which was obtained in either a graduate program (13%) or by means of a certificate (7%). Only 15% were Certified Rehabilitation Counselors and only one person was licensed as a psychologist. Seventy-four percent reported having between one and 10 years of direct service experience with clients while 26% reported having no similar work history. Seventy-four percent also indicated having between one and 10 years administrative/supervisory experience in rehabilitation settings. Additionally, 52% reported having acquired administrative/supervisory experience in non-rehabilitation settings. Sixty-one percent of the group was responsible for annual budgets of $250,000 to over $1,000,000. Fifty-one percent of the facilities were reported to be accredited by the Commission on Accreditation of Rehabilitaiton Facilities (CARF). Sixty-seven percent of the group were located in suburban or metropolitan areas with the remainder located in a small town or rural area.

Non-Profit Facility Middle Level Administrator. Eight of the 10 RSA regions were represented ranging from no members in Regions III and IX to four in Regions II and VI. Ninety percent were between 25 and 44 years of age. The majority of this group were characterized as being white

(80%), male (60%), and non-disabled (95%). More than half (60%) had a master's degree or higher. Only 15% had received formal training in rehabilitation administration or were Certified Rehabilitation Counselors. Eighty-five percent reported having between one and 10 years direct rehabilitation service experience and all indicated between one and 10 years administrative/supervisory experience in rehabilitation settings. On the other hand, 40% of the group reported having had at least one to five years administrative/supervisory experience in non-rehabilitation work settings. The number of staff members any single respondent supervised ranged from none to over 40 with the single largest category consisting of six to 10 employees (40%). Sixty percent of the group was responsible for annual budgets ranging from $50,000 to over $1,000,000 while 40% had no budgetary responsibilities. Seventy percent of the group indicated that they worked within an accredited facility with 40% being CARF approved. Seventy percent of the respondents were located in sub-urban or metropolitan areas (larger than 50,000) while the remainder were located in small towns or rural settings.

State Agency Top Level Administrators. Only five of the RSA regions were represented by this group ranging from none in Regions I, II, VI, IX, and X to 15 from Region IV. The majority of this group were male (93%), white (90%), and non-disabled (73%). Their ages varied with 76% ranging from 30 to 54 years of age. The group was reported to be well educated with 83% holding a master's degree and 10% with a doctorate. However, only 27% indicated having received formal training in rehabili-

tation administrative duties. Forty-one percent were Certified Rehabilitation Counselors and one respondent was a licensed psychologist. Ninety percent reported having one to 15 years experience as direct service providers in rehabilitation settings with the majority (62%) having between one and five years employment history in that capacity. Similarly, 80% reported having between one and 15 years experience in a rehabilitation administrative/supervisory capacity, while 45% indicated having administrative experience in non-rehabilitation settings. The size of staff monitored by the group ranged from none (3%) to over 40 persons (3%). Thirty-two percent reported having staff sizes of from six to 10 persons. Generally, the group managed annual budgets of $250,00 to over $1,000,000 with 55% administering the latter amounts. Yet, 22% reported having no budgetary responsibilities. Seventy-six percent of the group indicated their agency was not accredited in the traditional sense. However, 24% did report having agency accreditation with the largest number (11%) being through CARF. Eighty-seven percent of the group reported being located in suburban or metropolitan areas of 50,000 or more people.

State Agency Middle Level Administrators. Nine of the RSA regions were represented ranging from none in Region VIII to 22 in Region IV. The subsample predominantly was represented by non-disabled (88%), white (86%), male (74%). Seventy-two percent ranged from 35 to 54 years of age and 74% reported having obtained a master's degree (70%) or higher (4%). Few of the group members (19%) indicated having received formal training in rehabilitation administration either at

the graduate level or from a certificate granting program. However, 50% of the group were Certified Rehabilitation Counselors. The number of years reported as providing direct rehabilitation services varied from none to 20 years with 46% having one to five years experience and 27% working in that capacity for a six to 10 year period. On the other hand, 96% of the group indicated administrative/supervisory work experience in a rehabilitation capacity from one to 15 years. Similar number of years of administrative/supervisory work experience in non-rehabilitation settings was reported by 54% of the group. Forty-nine percent reported responsibility for staff sizes ranging from one to five individuals (27%) to more than 40 staff members (22%) with 15% indicating they had no staff to administer directly. Within the group, 46% reported having no budgetary responsibilities while 37% indicated overseeing annual budgets from $500,000 to over $1,000,000. Forty-three percent worked in accredited agencies, of which 31% were approved CARF. Most of the subgroup (84%) were located in suburban or metropolitan areas of 50,000 or more residents.

State Agency First-Line Supervisors. Nine of the 10 RSA regions were represented ranging from none in Region I to eight in Region IV. The respondents were primarily non-disabled (83%), white (91%), males (83%). Seventy-five percent had master's degrees (69%) or higher (6%), but only 17% had received formal training in rehabilitation administration. Fifty percent of the group were Certified Rehabilitation Counselors, and 97% reported having provided direct rehabilitation services to clients

for a period ranging from one year to over 20 years. Rehabilitation administration/supervisory capacity was reported by 97% of the group with 89% of those having between one and 15 years experience. Only 36% of the group had previous administrative or supervisory experience in non-rehabilitation settings. The number of staff supervised ranged from one to 30 persons with the highest percentage (44%) consisting of six to 10 staff members. Similarly, the group reported having responsibility for annual budgets of varying amounts, i.e., 42% had no budgets as compared to 21% working with budgets from $250,000 to $500,000. Nineteen percent worked in accredited agencies and 69% were working in metropolitan areas of 100,000 or more residents.

Instrumentation

The RATI was developed from four sources: (1) a review of duties performed by administrators and supervisors found in the rehabilitation literature, (2) descriptions of curricula in graduate rehabilitation administration training programs, (3) descriptions of inservice training courses offered by Regional Rehabilitation Continuing Education Programs, and (4) input from rehabilitation educators familiar with tasks performed by rehabilitation administrators and supervisors. The 64 items contained in the RATI were considered to be representative of the primary job tasks of rehabilitation administrators and first-line supervisors.

Each subject was asked to rate each of the 64 RATI items found on Table 1 using the three scales found in Table 2.[6] Scales 1, 2, and 3 represented the relative degree to which subjects perceived: (a) tasks

to be part of their present job duties,(b) additional inservice training as necessary to perform those tasks, and(c) academic preparation as necessary to prepare persons to perform the tasks. For purposes of meaningful interpretation of mean item and task category scores on the three scales, the authors arbitrarily pre-established the following criteria:

2.49 or lower	= Scale 1 - minor part of job constituted by the task; Scale 2 - task category without much need for additional in-service training; Scale 3 - task category with minor need for pre-service training.
2.50 - 3.49	= Scale 1 - moderate part of job constituted by the task; Scale 2 - task category with a moderate need for additional inservice training; Scale 3 - task category with a moderate need for preservice training.
3.50 or higher	= Scale 1 - substantial part of job constituted by the task; Scale 2 - task category with a substantial need for additional inservice training; Scale 3 - task category with a substantial need for preservice training.

Insert Tables 1 and 2 About Here

Data Analysis

In order to allow for parsimonious analysis and interpretation of the data, the Scale 1 ratings of the 178 usable respondents on the 64 item RATI were factor analyzed. In the factor analysis, the individual scores of the items were first intercorrelated using the product-moment method. The resulting matrix of intercorrelations were factored using the principal components factor solution. The emerging factors were analyzed by 13 iterations to determine the best estimate of communality for each of the 64 item variables. Finally, the factor matrix was rotated orthogonally using the Varimax procedure (Statistically Analysis System, 1979).

Following the factor grouping procedure achieved by the factor analysis method, a series of one-way analysis of variance (ANOVA), employing the general linear model (Statistical Analysis System, 1979) to weight means for unequal cell sizes, were used to answer the research questions. The .05 level was used to test for significant differences between groups. Where appropriate, Duncan's multiple comparison post hoc analyses following the ANOVA were used.

Results and Discussion

Factor Analysis of the RATI

The Factor Analysis yielded 10 factors accounting for 86% of the

Table 1
RATI Work Role Categories

Questionnaire Section and Item Number	
	General Personnel Management
I-1	Supervisory management of personnel within your agency.
I-5	Management of employee conflicts.
I-7	Interview applicants for direct service professional positions.
I-8	Interview applicants for indirect service positions.
I-11	Engage in recruitment activities for staff positions vacant.
I-12	Develop strategies for retaining/promoting employees.
I-13	Conduct personnel evaluation reports on a periodic basis.
I-16	Responsible for disciplining personnel under your supervision.
I-17	Conduct follow-up activities of duties assigned to subordinates.
	Professional Management
I-3	Supervision of direct service personnel in the office.
I-4	Supervision of direct service personnel in the field.
I-9	Coordinate active client caseloads in addition to your supervisory duties.
I-14	Assist counselors in preparation of individual written rehabilitation plans for clients served.
I-18	Assign work to counselors.
II-5	Maintain a system for case finding and procurement.
	Fiscal Management
III-1	Prepare budgets for your total agency.

Table 1 Continued

III-3	Manage a bookkeeping and accounting system within your agency.
III-6	Develop means for identifying financial resources.
III-7	Prepare financial analysis studies.
III-8	Responsible for implementing financial decisions.
III-9	Responsible for cost accounting procedures.
III-10	Controlling agency expenses.
	Production Management
V-2	Responsible for contract procurement.
V-3	Perform contract cost estimating and bidding.
V-4	Conduct work method (task) analyses in production operations.
V-5	Conduct time and motion studies for work measurement assessment.
V-6	Assess work place design and layout (accessibility).
V-7	Responsible for renovation planning and development.
	Program Planning and Evaluation
II-1	Develop written goals and policy statements for your agency.
II-2	Use program evaluation data for public policy formulation or reformulation.
II-4	Conduct community needs assessment.
II-6	Study manuals, case reports, and other materials to learn how to apply policies and procedures.
II-7	Preparation of reports dealing with rehabilitation activities, statistical breakdowns, employee evaluations, and fiscal management (program evaluation).

Table 1 Continued

II-9	Develop written program objectives.
II-10	Perform program evaluations on a periodic basis.
II-11	Develop resource materials related to facility programs.
	Public Relations
II-3	Prepare grant applications for your agency.
IV-1	Engage in public speaking activities representing your agency.
IV-5	Engage in working directly with the Board of Directors of your agency.
IV-6	Contact media personnel.
IV-7	Establish affiliation agreements with other service agencies.
IV-8	Involvement in rehabilitation legislative relations.
IV-9	Provide testimony for rehabilitation issues.
IV-10	Perform technical writing for presentation on rehabilitation issues.
IV-11	Develop public education/information strategies for your agency (e.g., brochures).
	Marketing Service
IV-3	Perform marketing/sales activities for your agency.
IV-4	Solicitation of volunteer assistance to your agency.
	Labor Relations
I-10	Engage in labor relations activities within your agency.

Table 1 Continued

	Purchasing
III-4	Purchase goods and supplies.
	Research
II-8	Conduct research in the area of rehabilitation.

Table 2
Scales for Rehabilitation Administrators in
Non-Profit Facilities and Rehabilitation Administrators/
First-Line Supervisors in State/Federal Agencies

Scale 1. To what extent is the task a part of your work?

1 = Definitely not a part

2 = A minor part

3 = A moderate part

4 = A substantial part

5 = A crucial and most significant part

Scale 2. To what extent do you perceive a need for additional inservice training?

1 = Definitely not needed

2 = Minor need for training

3 = Moderate need for training

4 = Training need is substantial

5 = Vital and significant need for training

Scale 3. To what extent is academic preparation necessary for job entry?[6]

1 = Definitely not needed

2 = A minor need

3 = A moderate need

4 = A substantial need

5 = A vital and significant need

total variance.[7] In order for a RATI item to be retained on a factor, a factor loading criterion of .45 or higher had to be present. As a result of this arbitrary decision rule established by the authors, nine of the original 64 item were omitted for failure to meet the criterion level. An additional five items (i.e., RATI items denoted as "other" which accounted for 7.57% of the variance) were omitted because they did not contribute to the inventory in meaningful way. The item composition of each of the ten factors can be observed on Table 1. The 10 factors were utilized for the data analysis of all 3 scales.

Definition of Identified Work Role Factors

General Personnel Management. This factor grouping consisted of nine tasks that represent responsibility for the overall supervisory management of personnel within the facility/agency (See Table 1). Examples of the duties performed under this heading include: recruiting, interviewing and selecting applicants for hiring, conducting periodic personnel evaluations, developing strategies for the retention and promotion for existing personnel, managing employee conflicts, disciplining employees, and monitoring the duties assigned to subordinates.

Professional Management. Six task items were contained under this factor heading which consist of duties associated with the supervision of professional direct service personnel (See Table 1). Examples of tasks performed by administrators and supervisors within this area

include: developing and maintaining an appropriate system for case finding and referral intake, coordination of active client caseloads, assigning work to counselors, and assisting counselors in the preparation of individualized written rehabilitation programs.

Fiscal Management. Seven tasks were grouped under the factor which consists of associated responsibilities of overall budget management and financial analyses within rehabilitation facilities or agencies (See Table 1). Tasks represented include: identifying appropriate financial resources, preparing facility/agency budgets, establishing and managing appropriate bookkeeping and financial and cost accounting systems, controlling agency expenses, preparing financial analysis studies, and making and implementing financial decisions.

Program Planning and Evaluation. This factor grouping consisted of eight job tasks related to responsibilities for the overall planning, implementation, and assessment of facility or agency program goals, policies, and objectives (See Table 1). Duties generally performed as part of this area include: conducting needs assessments within the community, developing written goals, objectives, and policy statements, developing resource materials, conducting program evaluations and preparing evaluation reports, and using program evaluation outcomes to reformulate facility/agency policies and procedures.

Public Relations. Nine tasks were identified within this factor grouping which represents development of an overall public education and information strategy of the facility or agency (See Table 1).

Examples of tasks performed include: working with the Board of Directors, preparing grant applications, establishing affiliation agreements, managing legislative relations and testifying before committees as needed, writing presentations on a variety of rehabilitation issues, performing public speaking activities, and contacting media sources as needed.

Marketing Service: Two task items formed this grouping which consist of job responsibilities for conducting marketing and sales activities for the facility or agency and soliciting volunteers for the service program from within the community (See Table 1).

Labor Relations. One task composed this factor heading which represents job responsibility related to establishing, improving, and maintaining appropriate labor relations for the rehabilitation facility or agency with external labor groups (See Table 1).

Purchasing. One task composed this factor which represents activities of purchasing goods and supplies for the facility or agency that are necessary for the day-to-day, as well as long-term operation of the program (See Table 1).

Research. One task item was identified within this factor consisting of the responsibility of administrators and supervisors to conduct research in rehabilitation relative to the activities performed within their employment setting (See Table 1).

Rehabilitation Administrator Roles and Functions[8]

Table 3 reports the mean, Facility Top Level (FTL) Administrator,

Facility Middle Level (FML) Administrator, Agency Top Level (ATL) Administrator, Agency Middle Level (AML) Administrator, and Agency First-Line (AFL) S-pervisor ratings of the extent that each of ten work roles are a part of their job (Duncan Multiple Comparison are reported at the bottom of Table 3 at/beyond the .05 level). Only the General Personnel Management work role was rated by all five groups as constituting more than a minor part of their job. Four groups of administrator/supervisors report the General Personnel Management as a moderate part of their job (Scale 1 mean $>$ 2.50), while FTL administrators rated that work role as a substantial (Scale 1 mean $>$ 3.50) part of their job. However, it should be pointed out that individual item means indicated that AML administrators rated recruiting and interviewing job applicants (Items I-7, I-8, and I-11) as a minor part of their job (See Table 1 for description of specific items), while AFL supervisors rated interviewing applicants for indirect service positions (Item I-8) as a minor part of their job. It should also be noted that Table 3 shows that FTL administrators, FML administrators and AFL supervisors reported the General Personnel Management work role as a significantly greater part of their job than did the AML administrators ($p < .05$).

Insert Table 3 About Here

As can also be seen on Table 3 the work role category of Program

Table 3

Means, ANOVA F's, and Significant Duncan's for Comparisons of the Scale 1 Response of Five Groups of Administrators/Supervisors on the Work Role Categories

Work Role Category	Non-Profit Facility		State/Federal Agency			F Ratio	Significant Duncan's ($p < .05$)
	1 Top Level $\bar{x}$	2 Middle Level $\bar{x}$	3 Top Level $\bar{x}$	4 Middle Level $\bar{x}$	5 First-Line $\bar{x}$		
1. General Personnel Management:	3.52	3.28	3.06	2.70	3.20	5.09 +	1, 2 vs 4 5 vs 4
2. Professional Management:	2.16	2.47	2.17	2.05	3.42	16.73 ++	5 vs 1, 2, 3, & 4
3. Fiscal Management:	3.42	2.32	2.76	2.00	1.75	22.06 ++	1 vs 2, 3, 4, & 5 2 vs 5 3 vs 4 & 5
4. Production Management:	2.18	1.87	1.82	1.41	1.49	5.95 +	1 vs 3 & 5
5. Program Planning and Evaluation:	3.24	3.06	3.30	2.90	2.26	9.30 ++	3 vs 4 & 5 1, 2, & 4 vs 5
6. Public Relations:	3.07	2.09	2.57	1.89	1.70	23.56 ++	1 vs 2, 3, 4, & 5 3 vs 2, 4, & 5
7. Marketing Service:	2.58	1.78	1.84	1.42	1.29	10.90 ++	1 vs 2, 3, & 4 1 & 3 vs 5
8. Labor Relations:	2.82	2.15	1.72	1.57	1.54	9.02 ++	1 vs 2, 3, 4, & 5
9. Purchasing:	2.29	3.05	2.10	1.69	2.00	5.72 ++	2 vs 1, 3, & 4
10. Research:	1.82	1.90	2.24	1.87	1.53	2.16	

* $<$ .05 ** $<$ .01 + $<$ .001 ++ $<$ .0001

Planning and Evaluation was reported as being of a moderate part of their job by top and middle level administrators regardless of setting, but as a minor part of the job of the first-line supervisor (Duncan differences significant at .05 level). However, observation of the individual item means under this work role category showed that (as would be expected) AFL supervisors rated the following two job tasks as a moderate and substantial part of their job respectively:

II-7 Preparation of reports dealing with rehabilitation activities, statistical breakdowns, employee evaluations, and fiscal management (Program Evaluation).

II-6 Study manuals, case reports, and other materials to learn how to apply policies and procedures.

Also worthy of note regarding the individual item "conducting community needs assessment" (II-4) was rated by four of the groups as a minor part of their work role. The one exception were the FTL administrators who rated it as a moderate part of their job.

The area of Public Relations generally was perceived as more relevant to the work role ot top level administrators in both state agency and facility settings than to middle level administrators or supervisors (See Table 3). The results of the multiple comparison tests between groups also indicate a statistically significant difference in the extent this work role was reported as a part of the job of the top level administrators employed in rehabilitation facilities and state agencies. The significantly greater extent that

FTL administrators reported this work role as a part of their job than did ATL administrators appeared to be greatly the result of differences on two job tasks contained within the category: (Item II-3), Prepare grant applications for your agency, and (Item IV-5), Engage in working directly with the Board of Directors of your agency). Item II-3 was rated as a substantial part of the job of FTL administrators ($\bar{X}$ = 3.74), while being a minor part of the job of ATL administrators ($\bar{X}$ = 2.03). It should also be noted that all five administrator/supervisor groups rated Item IV-9 (Provide testimony for rehabilitation issues) and Item IV-10 (Perform technical writing for presentation on rehabilitation issues) as a minor part of their job.

Similar findings were evident in the work role category of Fiscal Management found in Table 3. As was the case for Public Relations, Fiscal Management was perceived as more relevant to the work role of top level administrators in both state agency and facility settings than to middle level administrators and supervisors. In addition FTL administrators rated the Fiscal Management work role as a significantly greater part of their job than did ATL administrators. That difference appeared to be greatly attributed to the following individual task items which were rated by facility top level administrators as a substantial part of their job: (a) preparing budget for their total facility (III-1), (b) developing means to identify financial resources (III-6), (c) implementing financial decisions (III-8), and (d) controlling facility expenses (III-10). Significant differences (in favor of

FTL administrators, $p < .05$) between facility and agency top level administrators were found on all four of those task items.

As might have been expected, the area of Professional Management (i.e., line management) appears to be a minor part of the job of all groups with the exception of the first-line supervisor who rated the category as approaching a substantial part of their work role (See Table 3). Inspection of the individual item means revealed three job tasks within this work role category that first-line supervisors rated as a substantial part of their job. These are : (a) supervision of direct service personnel in the office (Item I-3), (b) supervision of direct service personnel in the field, and (c) assigning work to counselor (Item I-18).

Also worthy of note on Table 3 are the following:

1. The Production Management and Research work roles were rated by all groups as no more than a minor part of their job.
2. The Marketing Service and Labor Relations work roles were rated by four groups as no more than a minor part of their job. The exception was the FTL administrators who rated those work roles as a moderate part of their job.

Rehabilitation Administrator Inservice Training Needs[8]

Mean ratings, F ratios, and significant Duncan multiple comparisons for the 10 work role categories are reported in Table 4 as they pertain

to the perceived inservice training needs of rehabilitation administrators and supervisors. All levels of administrators in rehabilitation facilities and state agencies reported a moderate need for additional inservice training in General Personnel Management (Scale 2 mean>2.5). An examination of the individual item emans revealed that regardless of setting or administrative level, respondents reported a moderate need for training on Items I-1, I-5, I-12, I-13, I-16, suggesting existing across the board administrator/supervisor training needs in the area of overall supervisory management of personnel, conducting personnel evaluation, management of employee conflicts and discipline, and strategy development for retaining and promoting existing staff members. It should also be recalled from Table 3 that General Personnel Management, received mean ratings indicating that it was a moderate or substantial part of the job for all levels of administrators.

Insert Table 4 About Here

The mean Scale 2 ratings found on Table 4 for the work role category, Professional Management are also interesting. The only group to report at least a moderate need for training in this work category was the first-line supervisor groups in state rehabilitation agencies (See Table 4) who also rated this work role category as a moderate part of their job (See Table 3). As was previously noted, examinations of Scale 1 means on Items I-3, I-4, and I-18 revealed

Table 4

Means, ANOVA F's, and Significant Duncan's for Comparisons of the Scale 2 Responses of Five Groups of Administrators/Supervisors on the 10 Work Role Categories

Work Role Category	Non-Profit Facility		State/Federal Agency			F Ratio	Significant Duncan's ($p < .05$)
	1 Top Level $\bar{X}$	2 Middle Level $\bar{X}$	3 Top Level $\bar{X}$	4 Middle Level $\bar{X}$	5 First-Line $\bar{X}$		
1. General Personnel Management:	2.90	2.71	2.82	2.52	2.87	1.76	
2. Professional Management:	2.14	2.49	2.41	2.29	2.76	3.31 *	5 vs 1 & 4
3. Fiscal Management:	2.96	2.68	2.68	2.23	1.98	6.16 ++	1 vs 4 & 5 2 & 3 vs 5
4. Production Management:	2.70	2.62	2.08	1.83	1.69	6.36 ++	1 vs 3, 4, & 5 2 vs 4 & 5
5. Program Planning and Evaluation:	3.02	2.79	2.93	2.86	2.33	3.55 **	1, 3, & 4 vs 5 2 vs 4 & 5
6. Public Relations:	2.79	2.49	2.61	2.09	1.85	7.60 ++	1 vs 4 & 5 3 vs 4 2 & 3 vs 5
7. Marketing Service:	2.80	2.47	2.05	1.78	1.38	9.75 ++	1 vs 3, 4, & 5 2 vs 3, 4, & 5
8. Labor Relations:	3.22	2.89	2.10	2.02	2.22	7.60 ++	1 vs 3, 4, & 5 2 vs 3, 4, & 5
9. Purchasing:	2.05	2.35	1.76	1.65	1.94	2.16	
10. Research:	2.32	2.53	2.62	2.43	1.92	1.71	

* $<.05$
** $<.01$
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++ $<.0001$

that supervision of direct service personnel in the office and in the field as well as the assigning of work to counselors were seen as substantial aspects of their job. However, an examination of the Scale 2 means on Items I-3, I-4, and I-18 showed that a training need was perceived for supervising personnel in field only. In a related finding, the one job task in Professional Management rated as at least a moderate part of the job and perceived as a training need area by administrators at all levels was supervision of direct service personnel in the office. Overall, one might conclude that the data suggest a clear need for inservice training programs focused on the development of skills for supervising direct service personnel with the group most in need being state agency first-line supervisors.

Program Planning and Evaluation was the second highest rated job task category in both work roles (See Table 3) and inservice training needs (See Table 4). This category encompasses functions that include establishing program goals and objectives, assessing community needs, developing policies and procedures, and implementing and utilizing a program evaluation system. This indication by administrators may well reflect the emphasis being placed on accountability in both rehabilitation facilities and state rehabilitation agencies. As this administrative responsibility continues to increase in rehabilitation, inservice training efforts in this area will assist administrators in keeping pace with new developments and strategies.

In assessing inservice training needs, top and middle level facility

administrators reported a greater variety of training needs than their state agency counterparts. Rehabilitation facility administrators reflected skill deficits in Production Management, Marketing Service, and Labor Relations, whereas state agency administrators did not perceive training needs in those areas.

The results of Table 4 also suggest a consistency among state rehabilitation agency administrators to perceive training needs in the same areas of administration that they rate as being a moderate or substantial part of their job, the only exception being research (See Table 3). These findings are consistent with previous studies suggesting that rehabilitation agency administrators are promoted from practitioner ranks to assume administrative job roles without training (Feindel, 1980). Similar findings were also observed for administrators in non-profit rehabilitation facilities, however, there was not the same degree to consistency (See Tables 3 and 4). The only job task category that was seen as a moderate part of the job without training being needed was Purchasing (FML administrators). In contrast to this finding, several job task categories (Fiscal Management, Production Management, Labor Relations, and Research) were perceived as areas on which the FML administrators needed training but were not seen as a moderate or substantial part of their work role. FTL administrators had a greater tendency to match work functions with inservice training needs than did FML administrators, that if additional skills could be gained through

inservice training, these job task categories would become more integrated into their job role. Another posibility relates to the motivation of middle level administrators gaining additional skills outside of their job role responsibilities in order to become top level administrators.

It is interesting to note from the observations of Tables 3 and 4 that the closer the administrator group is to the service delivery aspect of the state rehabilitation agency system, the narrower the scope of administrative work functions and perceived inservice training needs delineated by this group of administrators. Since a majority of administrators are secured from practitioner ranks (Feindel, 1980), the closer they remain to service delivery and practitioner activities, the more they apparently continue to identify with this job role and its function. First-line supervisors are reported to perceive a need for training in all job task areas of General Personnel Management with the exception of interviewing applicants for indirect service positions (Item I-8). A substantial need for training was expressed by this group for managing employee conflicts. Training programs in rehabilitation administration will need to develop a training focus for these individuals as they make the transition from practitioner to administrator.

As can be seen in Table 4, a need for training was perceived by various levels of administrators in 22 instances. This is an interesting finding when compared to mean ratings of work functions in

which there were 17 instances where work roles were identified as a moderate or substantial part of their work (See Table 3). Administrator in rehabilitation appear to be perceiving a continuing professional development of their job role in which inservice training will be an essential component in acquiring this eventual level of job role and function.

Rehabilitation Administrator Preparational Curriculum Needs[8]

An investigation of the academic preparation necessary for job entry as a rehabilitation administrator was included in this study for two reasons. First, there is a paucity of research on this topic. Second, the question can be clearly differentiated from the question on inservice training since unlike inservice training or continuing education, preservice higher education provides a foundation of knowledge and skills which influence attitudes and behavior in virtually all functions related to a major occupational role. On the other hand, inservice training and continuing education serve to enhance fundamental core knowledge and skills by impacting on attitudes and behavior in discrete areas of occupational functioning. It is interesting to note that while the majority of respondents in this have from one to 10 years experience in a rehabilitation administrative capacity, the vast majority report having no preparatory training for their administrative role.

In order to identify the work role categories and specific job

functions perceived by practicing rehabilitation facility and state agency administrators to require preservice training commensurate for job entry. Scale 3 (See Table 2) was included.

Mean ratings, F ratios, and significant Duncan multiple comparisons for the 10 work role categories are reported in Table 5 as they pertain to perceived preservice training needs of rehabilitation administrators and supervisors. A quick observation of the cell means in Table 5 shows a consistently greater need (with one exception) perceived by the facility administrators than by agency administrators/supervisors for preservice training. Turning to the individual work role categories both levels of facility administrators perceived a substantial need for preservice training in General Personnel Management, while all levels of agency administrators reported a moderate need. None of these differences were statistically significant. On the other hand, all levels and types of rehabilitation managers reported a moderate need for preservice training in Professional Management. Again, there were no statistically significant differences among them.

Insert Table 5 About Here

In the area of Fiscal Management, both levels of facility administrators reported a substantial need for preservice training while all levels of agency administrators reported a moderate preservice training need in this area. Statistically significant differences were reported between

Table 5

Means, ANOVA F's and Significant Duncan's for Comparisons of the Scale 3 Responses of Five Groups of Administrators and Supervisors on the 10 Work Role Categories

Work Role Category	Facility		Agency			F Ratios	Significant Duncan's ($p<.05$)
	1 Top Level $\bar{x}$	2 Middle Level $\bar{x}$	3 Top Level $\bar{x}$	4 Middle Level $\bar{x}$	5 Supervisor Level $\bar{x}$		
1. General Personnel Management:	3.50	3.59	3.21	3.22	3.34	1.37	
2. Professional Management:	3.22	3.38	2.96	3.05	2.92	1.39	
3. Fiscal Management:	3.58	3.93	3.31	3.14	2.75	4.42 **	2 vs 4, 5 1 vs 4, 5 3 vs 5
4. Production Management:	3.29	3.22	2.77	2.70	2.49	2.94 *	1 vs 4, 5
5. Program Planning and Evaluation:	3.70	3.78	3.50	3.34	2.95	5.08 +	1, 2, 3, 4 vs 5
6. Public Relations:	3.60	3.51	3.24	2.97	2.73	6.19 ++	1 vs 4, 5 2 vs 4,5 3 vs 5
7. Marketing:	3.24	3.10	2.86	2.78	2.42	2.75 *	1 vs 4, 5
8. Labor Relations:	3.21	3.13	2.68	2.56	2.75	2.08	1 vs 4
9. Purchasing:	2.62	2.79	2.39	2.59	2.17	1.09	
10. Research:	2.77	3.27	3.21	3.05	2.52	1.73	

* $<.05$

** $<.01$

\+ $<.001$

++ $<.0001$

FTL and FML administrators versus AML administrators and AFL supervisors; and between ATL administrators versus AFL supervisors. However, ATL administrators perceived the importance of this work role category in a similar manner as facility administrators than did other levels of agency administrators. Specific items which played a major role in this outcome included III-1 (Agency budget preparation) and III-7 (Financial analysis). A parellel finding occurred in the Public Relations area, i.e., ATL administrators reported more importance to those work functions than did other agency administrators. Specific items which contributed significantly to this difference included IV-5 (Relations with boards of directors), IV-10 (Techinical writing in rehabilitation), and IV-11 (Public education/information strategies). Item IV-6 (Media relations) appeared to be the primary province of FTL administrators. In the area of Program Planning and Evaluation the results were similar to the above two findings except that ATL administrators also reported substantial preservice training needs in this work role category as did both levels of facility administrators. Specific items which were primarily involved in the difference between FTL, FML, and ATL administrators versus AML and AFL administrators included II-1 (Establishing goals and policies), and II-2 (Use of program evaluation results).

In the areas of Production Management and Marketing all levels of managers reported moderate preservice training needs except AFL supervisors who reported a minor training need. In both instances the

statistically significant differences were between FTL administrators versus AML administrators and AFL supervisors. Specific items which seemed to play the greatest role in these differences included: V-2 (Contract procurement), V-3 (Contract costing and bidding, V-7 (Renovation planning and development), and V-4 (Work method analysis). Item IV-4 (Solicitation of volunteers) seemed to be the primary province of facility administrators.

No statistically significant differences were found among levels of administrators in Labor Relations and Research with all reporting moderate preservice training needs. In the area of Purchasing there were also no statistically significant differences among the levels of administrators, but ATL administrators and AFL supervisors did report only a minor training need in contrast to all other levels which reported a moderate need.

While it can be argued that important differences in job functions and work roles exist between groups of administration according to both work setting and level of management variables, long-term rehabilitation administration training programs traditionally have been separated in terms of facility versus agency orientation. Thus, it seemed logical to see if such a dichotomy was the most efficient method for preservice rehabilitation administration curriculum development (See Table 7). Therefore, it seemed most appropriate to review the data on perceived preservice training needs according to work setting. Table 6 provides mean ratings, F ratios, and significant

Duncan multiple comparisons for the 10 work role categories, comparing facility versus agency administrators. Data contained in Table 6 revealed that significant differences occur in eight of the 10 categories of preservice training needs according to work setting where rehabilitation administrators are employed. When comparing Table 6 with Table 5, it becomes apparent that AFL supervisors have dissimilar training needs than other agency administrators in work role categories of Fiscal Management, Production Management, Program Planning and Evaluation, Public Relations, and Marketing Services. As a result, statistical differences are highest among those five areas in Table 6. Combining the results of Tables 5 and 6 a rank ordering of work role categories for which preservice training was perceived to be needed was assembled by employment setting of administrator (See Table 7).

Insert Tables 6 & 7 About Here

Based on the results of the entire study, Table 8 was developed to reflect a Recommended Curriculum for Preservice Rehabilitation Administration Education (RAE) Programs. Curriculum studies in general can benefit greatly from the results of scientific inquiry but in the end, the resulting curriculum must reflect in large measure the value judgements of the authors. What follows is a systematic discussion of those value judgements, supported where possible on the basis of the results of this investigation.

Table 6

Means and ANOVA F's for Comparisons of Non-Profit Rehabilitation Facility Administrators' and State/Federal Rehabilitation Agency Administrators'/Supervisors' Responses on Scale 3 for the 10 Work Role Categories

Work Role Category	Non-Profit Facility $\bar{X}$	State/Federal Agency $\bar{X}$	F Ratios
1. General Personnel Management:	3.53	3.25	4.84 *
2. Professional Management:	3.26	3.01	4.23 *
3. Fiscal Management:	3.68	3.09	12.40 +
4. Production Management:	3.27	2.67	11.37 +
5. Program Planning and Evaluation:	3.72	3.30	11.89 +
6. Public Relations:	3.57	2.98	19.69 ++
7. Marketing Service:	3.20	2.72	8.30 **
8. Labor Relations:	3.19	2.62	8.12 **
9. Purchasing:	2.66	2.45	1.33
10. Research:	2.91	2.99	.19

* $<.05$

** $<.01$

\+ $<.001$

++ $<.0001$

Table 7
Rank Order of Perceived Preservice Training Needs of
Work Role Categories for
Rehabilitation Facility and Agency Administrators

Facility Administrator	State Agency Administrator
1. Program Planning and Evaluation	1. Program Planning and Evaluation
2. Fiscal Management	2. General Personnel Management
3. Public Relations	3. Fiscal Management
4. General Personnel Management	4. Professional Management
5. Production Management	5. Research
6. Professional Management	6. Public Relations
7. Marketing	7. Marketing
8. Labor Relations	8. Production Management
9. Research	9. Labor Relations
10. Purchasing	10. Purchasing

Insert Table 8 About Here

The first four work role categories and related items were included as required curriculum content based in large measure on the perceived need for preservice training by practicing rehabilitation administrators and supervisors by job site and level. An additional factor was considered to establish the cut off between required content and recommended electives, that being the actual tasks included in the job for which students were being prepared. Two specific value judgments were simultaneously employed, i.e., (1) students should be prepared for the top level for which they may aspire in the field, not some mid-range, and (2) given the small size of our field and relative limitation of training funds, parsimony of training programs that allow maximum flexibility for site of placement was considered the most desirable outcome of the effort.

Given these considerations the first four work role categories were included as requirements not only because they were rated highest by the survey respondents in terms of perceived preservice training needs, but also due to the fact that top level administrators, regardless of sector are required to perform work in these categories. The next three categories were included as recommended general electives because all levels and types of administrators recommended them, even though they reported they do not perform these tasks as even a moderate part of the job, with the exception of Professional Management which is a moderate part of the job of AFL supervisors. The remaining two work categories are performed

Table 8
Recommended Curriculum for Preservice
Rehabilitation Administration Education Programs

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1. Program Planning and Evaluation (Required)
   a. Program evaluation design and implementation
   b. Preparation of program evaluation reports
   c. Utilization of program evaluation results
   d. Development of program objectives
   e. Development of program goals and policies
   f. Needs assessment.

2. Fiscal Management (Required)
   a. Budget preparation
   b. Financial decision making
   c. Controlling agency expenses
   d. Financial resource identification
   e. Financial analysis
   f. Cost accounting
   g. Management of financial accounting and bookkeeping systems.

3. General Personnel Management (Required)
   a. Employee supervision
   b. Management of employee conflicts
   c. Personnel evaluation
   d. Employee discipline
   e. Employee selection

Table 8 Continued

---

f. Employee retention and promotion

g. Delegation of authority.

4. Public Relations (Required)

a. Legislative relations

b. Public speaking

c. Grantsmanship

d. Development of public relations strategies

e. Relations with board of directors

f. Technical writing in rehabilitation

g. Affiliation agreement

h. Media relations.

5. Professional Management (Recommended General Elective)

a. Professional supervision in office

b. Professional supervision in field

c. IWRP preparation

d. Case finding and selection

e. Caseload coordination

f. Professional work assignment.

6. Production Management (Recommended General Elective)

a. Work method analysis

b. Work place design and layout

Table 8 Continued

---

c. Renovation planning and development

d. Contract costing and bidding

e. Motion and time studies

f. Contract procurement.

7. Research (Recommended General Elective)

a. Design and conduct of research in rehabilitation.

8. Marketing (Recommended Elective for Facility Orientation)

a. Marketing and sales in rehabilitation

b. Recruitment and utilization of volunteers in rehabilitation.

9. Labor Relations (Recommended Elective for Facility Orientation)

a. Labor relations in rehabilitation.

only by FTL administrators and were therefore included as electives recommended for students of facility administration only. Purchasing did not appear to be of enough substance to be included in the curriculum for either setting.

Conclusions

The vast majority of rehabilitation administrator and supervisors are white, male, and non-handicapped. While the incidence of female and handicapped administrators and supervisors tends to be higher in the rehabilitation ranks than in the business community generally, there is clearly a need for continued and improved affirmative action efforts in the recruitment and selection of management personnel in rehabilitation. The findings with regard to racial minorities in rehabilitation management positions is far less encouraging and quite consistent with previous findings (Atkins & Wright, 1980)

Clearly only a small percentage of practicing rehabilitation administrators and supervisors have any formal academic preparation for their work role, and most come from the direct service practitioner ranks with little management experience. This heightens the potential for new rehabilitation managers to learn their work role by modeling the behavior of their supervisors who also likely came from the practitioner ranks with no specific management preparation. The result is a group of persons who hold key job assignments who have high risk potential for elevated role strain and subsequent "burn

out" (Sawyer & Schumacher, 1980). The key to reducing that risk would seem to lie in more adequate preservice preparation for administrators and supervisors in rehabilitation and more responsive in-service educational opportunities for those already caught in the dilemma.

The work roles of practicing rehabilitation administrators and supervisors seem to be described by the following 10 categories: Program Planning and Evaluation, Fiscal Management, General Personnel Management, Public Relations, Professional Management, Production Management, Research, Marketing, Labor Relations, and Purchasing. General Personnel Management is a moderate to substantial part of all levels of rehabilitation managers' work role. Program Planning and Evaluation is a moderate part of the work role for all levels of rehabilitation management except AFL supervisors. Professional Management is a moderate part of the work role for AFL supervisors but not for the others. Top level managers from both settings rate Public Relations and Fiscal Management as at least a moderate portion of their job, while all other levels see these categories as minor parts of their job. All other work role categories were rated as minor parts of the job save Marketing and Labor Relations which was seen as a moderate component for FTL administrators, and Purchasing which was a moderate function for AML administrators. The question which remains is, "Are the work roles which are being performed reflective of what should be performed based on the needs of the

agency or facility?"

Rehabilitation managers report moderate inservice training needs, which for the most part, are consistent with their actual work role. This consistency is greatest at the top levels of administration, with middle managers reflecting more inservice training needs in a variety of work role categories than their current work functions would suggest. This phenomena may reflect a desire for job enrichment or upward mobility for middle level rehabilitation managers regardless of sector. AFL supervisors on the other hand, report the narrowest work role and the least number of inservice training needs which are quite consistent with the described work role. This finding is quite consistent with the previous work of Feindel (1980).

In short, all levels of rehabilitation managers report moderate inservice training needs in General Personnel Management and Program Planning and Evaluation. Both levels of facility administrators and ATL administrators report moderate training needs in Fiscal Management Only top level administrators from both sectors report moderate inservice training needs in Public Relations. Specific inservice training needs are also reported for the following groups: Professional Management for AFL supervisors, Research for ATL administrators, and Production Management, Marketing, and Labor Relations for FTL administrators.

While no comparable study has been completed previously, it is interesting to note that Hutchinson, Luck, and Hardy (1978) using an

entirely different method and involving only ATL administrators found the following similar inservice training needs to be of the highest order; general personnel management, general framework for rehabilitation administration, fiscal management, and program planning and evaluation. There can be little doubt of the accuracy of Stephens and Kneipp's (1981) admonition of the need to include inservice training considerations for administrators and supervisors when planning an agency or facility's overall staff development efforts. It would seem that the information contained in this study would prove to be of considerable value to National Rehabilitation Administration Association (NRAA), Council of State Administrators of Vocational Rehabilitation (CSAVR), Rehabilitation Service Administration (RSA), National Association of Rehabilitation Facilities (NARF), and the various state agencies and private facilities as each work toward developing more adequate managers of the rehabilitation process.

After reviewing the aforegoing material it is quite clear that we are viewing a separate specialty in rehabilitation administration which is quite distinct from direct service rehabilitation specialties in terms both of work roles and training needs. To deal with its preservice preparation needs, what is needed is a specialized curriculum and not just a course or two on rehabilitation management superimposed over an existing rehabilitation counseling, vocational evaluation, or other direct service curriculum. Such a modification of an existing direct service rehabilitation academic program i.e., the addition of

course work in professional and general personnel management, would only be adequate for the preparation of first level supervisor (primarily in agency settings).

The separate specialized curriculum should include at a minimum, course work designed to prepare students in the following areas: Program Planning and Evaluation, Fiscal Management, General Personnel Management, and Public Relations. The most desirable curriculum would also include general electives in Professional Management, Production Management, and Research, as well as electives for those primarily interested in facility administration in Marketing and Labor Relations. When reviewing the first four curricular components, the similarity with the areas of general management described by Kazmier (1974) is amazing, i.e., production (Program Planning and Evaluation), financial (Fiscal Management), personnel (General Personnel Management), and sales (Public Relations). These curricular recommendations are remarkably similar to the recommendations of a previous study by McDonald & Lorenz (1977) which recommended a curriculum which would include general framework for rehabilitation administration, fiscal management, program planning and evaluation, professional management, public relations, and research.

These findings should at a minimum pave the way for the establishment, improvement, and development of accreditation standards for curricula in rehabilitation administration. Such curricula would no doubt contribute greatly to an improved rehabilitation system in this country. Moreover, such preparation opportunities could in the final

analysis lead to a certification program in rehabilitation administration and supervision which would help select only those who are best prepared to effectively manage the rehabilitation service delivery program.

Recommendations

First and foremost it should be clear that what is most needed, if we are to improve the practice of rehabilitation administration and supervision, is increased inservice and preservice training opportunities in this specific area of specialization. Such training should help to expand the work role of practicing rehabilitation managers and promote greater job flexibility during a period of shrinking economy. In this fashion we will ultimately achieve the goal of producing rehabilitation managers who do what should be accomplished to improve the program rather than simply model what has gone before.

The reader is cautioned to recognized that certain limitations of this study should give rise to selected reservations when interpreting its results, i.e., restricted generalizability of the findings due to the incomplete nature of the population studied and the limited sample size, and also the questionable meaning of the specific levels of management employed in the study due to the lack of an operational definition. Such limitations give rise to recommendations for further studies which would include repetition of the current study with clear operational definitions of the specific managment levels,

use of a population which more completely reflects the universe of practicing administrators and supervisors in rehabilitation, and employment of a larger sample size (such a study would require National Institute for Handicapped Research sponsorship). Follow-up studies to this survey, one employing direct behavioral observation of the work role of rehabilitation managers, and a second using a delphi technique to determine what the work roles of practicing rehabilitation administrators should be would greatly expand our knowledge in this most important area of inquiry. Finally, a follow-up study of graduates of rehabilitation administration education programs, which use the recommended curriculum, based both on self and supervisory report would help considerably to refine and finalize these findings in terms of the efficiency and effectiveness of these training efforts.

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Footnotes

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[3]The actual RATI sent to members of the sample can be found in the Technical Report. Available from the Oklahoma Clearing House.

[4]Two hundred forty-three questionnaires were returned, of which 65 were not used in the final analysis for the following reasons:

41 respondents indicated their location of employment as Medical Institutions (N=17), Educational Institution (N=20), or Other (N=4). The small Ns in these groups made comparison with the larger N groups inappropriate.

12 questionnaires had no responses to at least seven consecutive items which constituted at least one major category in the inventory.

Footnotes Continued

7 questionnaires were returned unanswered.

5 questionnaires included members who either failed to indicate their present level of management or represented a first-line supervisor within a non-profit rehabilitation facility (n=1).

[5]A comprehensive demographic description of the sample can be found in Table 1 in the Technical Report. Available from the Oklahoma Clearing House. The demographic questionnaire can also be found in the Technical Report Information Supplement.

[6]When the questionnaire was originally sent to the sample, Scale 3 was worded as follows:

To what extent is academic preparation necessary for job entry?

1 = not applicable

2 = strongly disagree

3 = disagree

4 = agree

5 = strongly agree

Immediately following the analysis of this Scale 3 data, the current athors realized that the results made little sense and were basically uninterpretable due to the lables (e.g., not applicable) attached to the points of the Scales and the incompatibility of those Scale point labels with those found on Scales 1 and 2. To remedy the situation, Scale 3 was modified to its present form and the original 426 reci-

Footnotes Continued

pients of the first questionnaire were mailed a follow-up questionnaire containing the demographic questions and the RATI with only the modified version of Scale 3 (RATI items were not re-rated on Scales 1 and 2).

The Scale 3 date in this report are based totally on the responses on the follow-up questionnaire. Of the 239 NRAA members who responded (56% return rate), 174 questionnaires (i.e., 40.8% of the total sample) were in usable form for subsequent analyses.

[7]Complete statistical results data on the Factor Analysis can be observed in the Technical Report Information Supplement available from the Oklahoma Clearing House.

[8]The Technical Report Information Supplement available from the Oklahoma Clearing House contains group means, standard deviations, Ns, F ratios, and Duncan's (Multiple Comparison) for each Work Role Category and for each of the 50 individual job task items for Scales 1, 2, & 3.

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Rehabilitation Administrators and Supervisors: Their Work Assignments, Training Needs, and Suggestions for Preparation

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Technical Information Supplement

RE: Matkin, R.E., Sawyer, H.W., Lorenz, J.R., & Rubin, S.E. Rehabilitation administration and supervision: Their work assignments, training needs, and suggestions for preparation.

This 42 page Technical Report Information Supplement contains the Rehabilitation Administrator Task Inventory and seven tables detailing the data found in the eight tables in the manuscript noted above.

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This Study is Being Conducted by:

REHABILITATION INSTITUTE

SOUTHERN ILLINOIS UNIVERSITY

Carbondale, Illinois

In Cooperation with the

NATIONAL REHABILITATION ADMINISTRATION ASSOCIATION

A Professional Division of

NATIONAL REHABILITATION ASSOCIATION

ASSURANCE OF CONFIDENTIALITY

All information about individuals will be held in strictest confidence. It will be used only by persons engaged in the survey and will not be disclosed or released to others for any purpose. Your responses will be used only when combined with those of many other people. Your participation in the study is understood to be completely voluntary and we appreciate your cooperation.

You will notice a number has been assigned to the questionnaire, located in the upper right corner of this page. The number represents identification for the sole purpose of follow-up. Such identification will be used only in connection with data gathering for this research project and will not be disclosed or released to others for any purpose.

The purpose of this study is to find out what Rehabilitation Administrators do in their present work assignment and what they believe are important administrative inservice and preservice course needs relative to the field. Your opinions are very important because you have been chosen to represent many people in your profession.

On each of the following pages, you will find statements about different aspects of Rehabilitation Administration. Try to think about what your present work role demands when responding to the items. If you are unable to answer from your current experience, please respond to what you would expect to need on the basis of work in other rehabilitation administration settings in terms and training and preparation.

Remember, there are no right or wrong answers. We simply want you to tell us how you feel and what you believe.

DIRECTIONS

On the next few pages you will find statements concerning aspects of Rehabilitation Administration. We are asking you to make three responses to each statement: 1) Integral Part of Your Work; 2) Need for Additional Inservices Training; and 3) Academic Preparation Necessary for Job Entry.

At the top of each page are listed the three categories and responses criteria for reference. Following each statement, select the response of your choice and place your rating under the appropriate column.

The following example will assist you to answer these statements.

Example:

	Integral Part of Your Work	Need for Additional Inservice Training	Academic Preparation Necessary For Job Entry
Supervise counselors in your office.	3	4	4

IMPORTANT:

1. Be sure you answer each statement.

2. Be sure you answer each category.

Integral Part of Your Work	Need for Additional Inservice Training	Academic Preparation Necessary for Job Entry
1. Definitely Not a Part	1. Definitely not Needed	1. Definitely not Needed
2. A Minor Part	2. Minor Need for Training	2. Minor Need
3. A Moderate Part	3. Moderate Need for Training	3. Moderate Need
4. A Substantial Part	4. Training Need is Substantial	4. Substantial Need
5. A Crucial and Most Significant Part	5. Vital and Significant Need for Training	5. Vital and Significant Need

I. Rehabilitation Personnel Management	Work	Training	Preparation
1. Supervisory management of personnel within your agency	___	___	___
2. Development of personnel policies within your agency	___	___	___
3. Supervision of direct service personnel in the office.	___	___	___
4. Supervision of direct service personnel in the field	___	___	___
5. Management of employee conflicts	___	___	___
6. Conduct inservice staff training	___	___	___
7. Interview applicants for direct service professional positions	___	___	___
8. Interview applicants for indirect service positions	___	___	___
9. Coordinate active client caseloads in addition to your supervisory duties	___	___	___
10. Engage in labor relations activities within your agency	___	___	___
11. Engage in recruitment activities for staff positions vacant	___	___	___
12. Develop strategies for retaining/promoting employees	___	___	___
13. Conduct personnel evaluation reports on a periodic basis	___	___	___

Integral Part of Your Work	Need for Additional Inservice Training	Academic Preparation Necessary for Job Entry
1. Definitely Not a Part	1. Definitely not Needed	1. Definitely not Needed
2. A Minor Part	2. Minor Need for Training	2. Minor Need
3. A Moderate Part	3. Moderate Need for Training	3. Moderate Need
4. A Substantial Part	4. Training Need is Substantial	4. Substantial Need
5. A Crucial and Most Significant Part	5. Vital and Significant Need for Training	5. Vital and Substantial Need

		Work	Training	Preparation
14.	Assist counselors in preparation of individual written rehabilitation plans for clients served	___	___	___
15.	Supervising practicum students and college field work experience	___	___	___
16.	Responsible for disciplining personnel under your supervision	___	___	___
17.	Conduct follow-up activities of duties assigned to subordinates	___	___	___
18.	Assign work to counselors	___	___	___
19.	Other _____			
	_____	___	___	___
II.	Rehabilitation Program Management			
1.	Develop written goals and policy statements for your agency	___	___	___
2.	Use program evaluation data for public policy formulation or reformulation	___	___	___
3.	Prepare grant applications for your agency	___	___	___
4.	Conduct community needs assessment	___	___	___
5.	Maintain a system for case findings and procurement	___	___	___
6.	Study manuals, case reports, and other materials to learn how to apply policies and procedures	___	___	___

Integral Part of Your Work	Need for Additional Inservice Training	Academic Preparation Necessary for Job Entry
1. Definitely Not a Part	1. Definitely not Needed	1. Definitely not Needed
2. A Minor Part	2. Minor Need for Training	2. Minor Need
3. A Moderate Part	3. Moderate Need for Training	3. Moderate Need
4. A Substantial Part	4. Training Need is Substantial	4. Substantial Need
5. A Crucial and Most Significant Part	5. Vital and Significant Need for Training	5. Vital and Substantial Need

	Work	Training	Preparation
7. Preparation of reports dealing with rehabilitation activities, statistical breakdowns, employee evaluations, and fiscal management (program evaluation) . . .	___	___	___
8. Conduct research in the area of rehabilitation	___	___	___
9. Develop written program objectives	___	___	___
10. Perform program evaluations on a periodic basis	___	___	___
11. Develop resource materials related to facility programs	___	___	___
12. Maintain current literature regarding legal regulations of your program	___	___	___
13. Other _____			
_____	___	___	___
III. Rehabilitation Financial Management			
1. Prepare budgets for your total agency . . .	___	___	___
2. Prepare budgets for a specific program only	___	___	___
3. Manage a bookkeeping and accounting system within your agency	___	___	___
4. Purchase goods and supplies	___	___	___
5. Review worker expense vouchers	___	___	___
6. Develop means for identifying financial resources	___	___	___

Integral Part of Your Work	Need for Additional Inservice Training	Academic Preparation Necessary for Job Entry
1. Definitely Not a Part	1. Definitely not Needed	1. Definitely not Needed
2. A Minor Part	2. Minor Need for Training	2. Minor Need
3. A Moderate Part	3. Moderate Need for Training	3. Moderate Need
4. A Substantial Part	4. Training Need is Substantial	4. Substantial Need
5. A Crucial and Most Significant Part	5. Vital and Significant Need for Training	5. Vital and Significant Need

	Work	Training	Preparation
7. Prepare financial analysis studies	___	___	___
8. Responsibility for implementing financial decisions	___	___	___
9. Responsibility for cost accounting procedures	___	___	___
10. Controlling agency expenses	___	___	___
11. Purchase of service contractual agreements with service vendors	___	___	___
12. Other _____			
_____	___	___	___
IV. Public Relations			
1. Engage in public speaking activities representing your agency	___	___	___
2. Responsible for coordinating marketing efforts	___	___	___
3. Performing marketing/sales activities for your agency	___	___	___
4. Solicitation of volunteer assistance to your agency	___	___	___
5. Engage in working directly with the Board of Directors of your agency	___	___	___
6. Contact media personnel	___	___	___
7. Establish affiliation agreements with other service agencies	___	___	___

Integral Part of Your Work	Need for Additional Inservice Training	Academic Preparation Necessary for Job Entry
1. Definitely Not a Part	1. Definitely not Needed	1. Definitely not Needed
2. A Minor Part	2. Minor Need for Training	2. Minor Need
3. A Moderate Part	3. Moderate Need for Training	3. Moderate Need
4. A Substantial Part	4. Training Need is Substantial	4. Substantial Need
5. A Crucial and Most Significant Part	5. Vital and Significant Need for Training	5. Vital and Significant Need

	Work	Training	Preparation
8. Involvement in rehabilitation legislative relations	___	___	___
9. Provide testimony for rehabilitation issues	___	___	___
10. Perform technical writing for presentation on rehabilitation issues	___	___	___
11. Develop publis education/information strategies for your agency (e.g., brochures)	___	___	___
12. Other _____			
_____	___	___	___
V. Production Management			
1. Supervise production activities within your agency	___	___	___
2. Responsible for contract procurement	___	___	___
3. Perform contrac cost estimating and bidding	___	___	___
4. Conduct work method (task) analyses in production operations	___	___	___
5. Conduct time and motion studies for work measurement assessment	___	___	___
6. Assess work place design and layout (accessibility)	___	___	___
7. Responsible for renovation planning and development	___	___	___
8. Other _____			
_____	___	___	___

Now we would like to ask you some additional questions. Again, we want to stress that these questions are needed for survey purposes only. The information will be used only by persons engaged in the survey and will not be disclosed or released to others for any purpose. Your answers will be used only when combined with those of many other people.

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1. Your sex is: ___Female

   ___Male

2. Your age is: ___Years

3. Your race is: _____ (Optional)

4. Are you handicapped? ___No ___Yes

   If "Yes", please specify nature: _____

5. Your highest level of formal education is:

   ___Bachelor ___Doctorate

   ___Master ___Other (Please specify)

6. Your undergraduate major was: _____

   Your Master's major area was: _____

   Your Doctoral major area was: _____

7. Have you completed a formal program in Rehabilitation Administration?

   ___Yes ___No

   If "Yes", please indicate which: ___Graduate School

   ___Certificate

8. Are you a Certified Rehabilitation Counselor (CRC)?

   ___Yes ___No

9. Are you a Licensed Psychologist? ___Yes ___No

10. Indicate the number of years experience you have in:

    ___Rehabilitation direct service

    ___Rehabilitation suprevision & administration

    ___Non rehabilitation related supervision/administration

11. What is the community size where your agency/firm is located?

___Less than 10,000 ___50,001-100,000 ___500,001-1,000,000

___10,001-50,000 ___100,001-500,000 ___1,000,001 or more

12. Which category best describes your agency/firm?

___Non-profit Rehabilitation Facility

___Educational Institution

___State/Federal Rehabilitation Agency

___Medical Rehabilitation Facility

___Other (Please specify) _____

13. As an administrator, which category best describes your position?

___Top Level Management

___Middle Level Management

___First Line Supervision

14. Is your agency/firm accredited by any of the following regulating agencies (Please specify)?

___C.A.R.F.

___J.C.A.H.

___N.A.C.

___Other (Please specify) _____

15. What is the number of staff personnel you supervise? ___(Please specify number)

16. Are you responsible for a budget to carry out your duties? ___Yes ___No

If "Yes", what is the amount? _____ (Please specify in dollars)

17. Indicate the RSA region in which you are employed:

Region I ___ Region VI ___

Region II ___ Region VII ___

Region III ___ Region VIII ___

Region IV ___ Region IX ___

Region V ___ Region X ___

Table 1

Factor Analysis of the 64 Inventory Items[1] into the Ten Work Role Categories

Work Role Category	Factor Analyzed Items	Factor Loadings	R^2	Percent Total Variance	Cummulative Variance
1. General Personnel Management:	I-1	.58			
	I-5	.68			
	I-7	.76			
	I-8	.68			
	I-11	.72	6.65	16.59	16.59
	I-12	.66			
	I-13	.76			
	I-16	.73			
	I-17	.55			
2. Professional Management:	I-3	.57			
	I-4	.49			
	I-9	.55			
	I-14	.75	3.92	9.78	26.37
	I-18	.79			
	II-5	.57			
3. Fiscal Management:	III-1 *	.49 *			
	III-3	.62			
	III-6	.46			
	III-7	.62	3.60	8.97	35.33
	III-8	.56			
	III-9	.76			
	III-10	.59			
4. Production Management:	V-2	.68			
	V-3	.76			
	V-4	.79	4.12	10.28	45.62
	V-5	.80			
	V-6	.71			
	V-7	.59			

Table 1 Continued

Work Role Category	Factor Analyzed Items	Factor Loadings	R^2	Percent Total Variance	Cumulative Variance
5. Program Planning and Evaluation:	II-1	.49			
	II-2	.55			
	II-4	.48			
	II-6	.47	4.19	10.46	56.07
	II-7	.68			
	II-9	.75			
	II-10	.81			
	II-11	.47			
6. Public Relations:	II-3	.65			
	IV-1	.47			
	IV-5	.58			
	IV-6	.57			
	IV-7	.50	6.42	16.01	72.09
	IV-8	.78			
	IV-9	.76			
	IV-10	.51			
	IV-11	.69			
7. Marketing Service:	IV-3	.78			
	IV-4	.68	1.74	4.34	76.43
8. Labor Relations:	I-10	.60	1.39	3.47	79.90
9. Purchasing	III-4	.56	1.29	3.22	83.12
10. Research:	II-8	.56	1.16	2.88	86.00

[1]Total: 50 Items (78.13%)

*Item III-1 had a factor loading of .54 on Factor #4. However, the authors considered the item to best reflect the characteristics of factor 3, i.e., Fiscal Management rather than Production Management.

Table 2

Demographic Characteristics of Respondents:

First and Second Administration

Characteristics		Non-Profit Facility				State/Federal Agency					
		Top Level		Middle Level		Top Level		Middle Level		First-Line	
		N1=39	N2=39	N1=20	N2=15	N1=29	N2=28	N1=54	N2=66	N1=36	N2=24
Sex:	Male	31	26	12	10	27	24	40	51	30	19
	Female	8	11	8	5	2	4	14	15	6	5
Age:	25 - 29	4	2	5	2	2	1	2	1	-	-
	30 - 34	12	11	5	7	6	3	6	8	3	1
	35 - 39	7	8	4	1	5	7	11	11	8	4
	40 - 44	5	2	4	-	3	5	6	12	5	4
	45 - 49	6	3	-	1	5	1	9	8	10	2
	50 - 54	2	5	2	2	3	5	13	16	3	5
	55 - 59	2	3	-	1	2	2	5	8	5	3
	60 +	1	3	-	-	3	3	2	2	2	5
Race:	American-Indian	-	1	-	-	-	1	-	-	-	-
	Black	2	2	-	1	-	-	3	3	-	-
	Hispanic	1	1	-	-	-	-	-	1	1	-
	Oriental	-	-	-	-	-	-	1	-	-	1
	White	36	31	16	13	26	25	47	59	33	21
	No Response	-	2	4	-	3	2	3	3	2	2
Disability:	None	34	27	19	13	21	24	48	54	30	19
	Amputee	1	2	-	-	1	-	1	2	-	-
	Cardio-Vascular	1	2	1	-	-	-	-	3	1	-
	Cerebral Palsy	-	-	-	-	-	-	-	-	-	-
	Epilepsy	-	-	-	-	-	-	-	-	-	-
	Hearing	-	-	-	-	2	-	1	1	1	2
	Paraplegia	-	-	-	-	1	-	-	-	-	-
	Quadriplegia	-	1	-	-	-	-	-	-	-	-
	Visual	1	1	-	-	-	-	1	1	1	1
	Other	2	4	-	1	4	4	3	5	3	2
Education:											
	Less than BA	-	-	1	-	-	-	2	-	1	-
	Bachelor's	13	10	7	4	2	1	12	13	8	6
	Master's	23	23	11	9	24	25	38	49	25	18
	Doctorate	2	2	1	-	3	2	2	4	2	-
	No Response	1	2	-	1	-	-	-	-	-	-

Characteristics	Non-Profit Facility				State/Federal Agency					
	Top Level		Middle Level		Top Level		Middle Level		First-Line	
	N1=39	N2=39	N1=20	N2=15	N1=29	N2=28	N1=54	N2=66	N1=36	N2=24
Formal Rehab. Admin. Trng.: None	31	25	17	10	21	23	44	46	30	23
Grad. School	5	6	1	2	7	3	6	7	1	-
Certificate	3	6	2	2	1	2	4	13	5	1
CRC: Yes	6	13	3	5	12	9	27	32	18	14
No	33	24	17	9	17	18	27	32	18	10
Licensed Psychologist: Yes	1	-	-	-	1	-	-	-	-	-
No	38	39	20	15	28	28	54	66	36	24
Direct Rehab. Service (Years): None	10	10	2	4	2	2	4	6	1	1
1 - 5	19	19	13	9	18	14	25	32	17	7
6 - 10	10	3	4	1	6	10	15	20	9	7
11 - 15	-	3	1	-	2	1	7	4	5	5
16 - 20	-	1	-	-	-	-	3	3	1	1
21 +	-	1	-	-	1	1	-	1	3	3
Rehab. Superv. (Years): None	4	-	-	-	1	-	-	-	1	1
1 - 5	15	7	15	8	6	3	12	10	9	4
6 - 10	14	18	5	5	9	9	22	23	15	12
11 - 15	3	6	-	1	8	10	18	25	8	5
16 - 20	1	5	-	-	4	4	1	6	3	2
21 +	2	1	-	-	1	2	1	2	-	-
Non-Rehab. Superv. (Years): None	19	22	12	8	16	18	25	38	23	19
1 - 5	10	10	6	6	7	8	16	19	8	4
6 - 10	6	1	1	-	4	-	8	5	5	-
11 - 15	2	1	-	-	2	2	4	3	-	1
16 - 20	1	2	1	-	-	-	1	1	1	-
21 +	1	1	-	-	-	-	-	-	-	-
Staff Size: None	3	3	1	1	1	1	8	8	-	-
1 - 5	6	4	2	5	2	5	15	16	3	4
6 - 10	14	8	8	5	9	6	4	9	16	6
11 - 15	4	4	1	-	1	3	5	3	5	3
16 - 20	1	6	3	3	2	2	2	2	5	5
21 - 25	3	1	2	-	2	-	1	1	5	3
26 - 30	2	5	1	-	1	3	3	6	2	3
31 - 35	-	2	1	1	1	-	2	4	-	-
36 - 40	-	1	-	-	-	1	2	-	-	-
41 +	6	5	1	-	10	7	12	17	-	-

Characteristics	Non-Profit Facility				State/Federal Agency					
	Top Level N1=39	N2=39	Middle Level N1=20	N2=15	Top Level N1=29	N2=28	Middle Level N1=54	N2=66	First-Line N1=36	N2=24
Budget Size: None	4	8	8	5	6	9	25	28	15	17
up to $50,000	-	-	-	-	1	-	2	-	4	-
$50,001 - 100,000	1	1	2	1	-	1	1	1	1	-
$100,001 - 250,000	5	3	3	1	-	1	4	6	5	3
$250,001 - 500,000	10	4	2	3	3	-	2	5	8	2
$500,001 - 1,000,000	7	12	4	4	3	2	9	8	1	1
over $1,000,000	12	11	1	1	16	15	11	18	2	1
Accreditation: CARF	20	19	8	8	3	9	17	22	4	5
JCAH	-	2	-	-	1	-	1	1	-	-
NAC	-	2	2	3	2	1	1	-	1	1
Other	5	4	4	2	1	-	4	4	2	2
No Response	14	10	6	3	22	17	31	38	29	16
Location Size:										
less than 10,000	5	3	2	1	1	-	4	2	3	2
10,001 - 50,000	8	6	4	3	3	1	5	9	9	5
50,001 - 100,000	8	11	4	4	7	3	8	14	3	2
100,001 - 500,000	11	5	4	4	6	8	20	23	9	4
500,001 - 1,000,000	1	3	3	1	4	1	7	7	8	7
over 1,000,000	6	6	3	2	8	14	10	11	4	3
RSA Region: I	3	3	1	2	-	-	2	3	-	-
II	2	5	4	1	-	-	2	3	2	1
III	3	4	-	1	5	3	10	11	5	4
IV	8	4	3	1	15	15	22	26	8	7
V	11	16	2	4	2	3	6	8	7	1
VI	3	2	4	1	-	3	5	5	4	7
VII	2	2	2	1	5	2	2	5	3	3
VIII	2	1	2	1	2	1	-	2	3	-
IX	3	2	-	1	-	1	3	2	1	1
X	2	-	1	2	-	-	2	1	3	-

Table 3

Means, Standard Deviations, ANOVA F's, and Significant Duncan's for Comparisons of Two Levels of Non-Profit Rehabilitation Facility Administrators' and Three Levels of State/Federal Rehabilitation Agency Administrators' Responses on Work Functions for the 10 Work Role Categories

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 First-Line		
1. General Personnel Management:	$\bar{X}$=	3.52	3.28	3.06	2.70	3.20	5.09 +	1, 2, & 5 vs 4
	sd=	.73	.88	.75	1.07	.91		
	N=	39	20	29	54	36		
2. Professional Management:	$\bar{X}$=	2.16	2.47	2.17	2.05	3.42	16.73 ++	5 vs 1, 2, 3, & 4
	sd=	.90	.76	.91	.90	.70		
	N=	39	20	29	54	36		
3. Fiscal Management:	$\bar{X}$=	3.42	2.32	2.76	2.00	1.75	22.06 ++	1 vs 2, 3, 4, & 5 2 vs 5 3 vs 4 & 5
	sd=	1.05	1.08	.90	.75	.70		
	N=	39	20	29	54	36		
4. Production Management:	$\bar{X}$=	2.18	1.87	1.82	1.41	1.49	5.95 +	1 vs 3 & 5
	sd=	1.00	1.07	.85	.60	.73		
	N=	39	20	29	54	36		
5. Program Planning and Evaluation:	$\bar{X}$=	3.24	3.06	3.30	2.90	2.26	9.30 ++	3 vs 4 & 5 1, 2, & 4 vs 5
	sd=	.94	.84	.69	.79	.75		
	N=	39	20	29	54	36		

Table 3 Continued

Work Role Category		Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 MiddleLevel	State/Federal Agency 5 First-Line	F Ratios	Significant Duncan's ($p<.05$)
6. Public Relations:	$\bar{X}$=	3.07	2.09	2.57	1.89	1.70		1 vs 2, 3, 4, & 5 3 vs 2, 3, & 5
	sd=	.91	.64	.69	.67	.57	23.56 ++	
	N=	39	20	29	54	36		
7. Marketing Service:	$\bar{X}$=	2.58	1.78	1.84	1.42	1.29		1 vs 2, 3, 4, & 5 3 vs 5
	sd=	1.33	1.12	1.11	.64	.64	10.90 ++	
	N=	39	20	29	54	36		
8. Labor Relations:	$\bar{X}$=	2.82	2.15	1.72	1.57	1.64		1 vs 2, 3, 4, & 5
	sd=	1.39	1.35	.92	.92	.83	9.02 ++	
	N=	38	20	29	54	36		
9. Purchasing:	$\bar{X}$=	2.29	3.05	2.10	1.69	2.00		2 vs 1, 3, 4, & 5 1 vs 5
	sd=	1.06	1.31	1.08	1.04	1.17	5.72 +	
	N=	38	19	29	54	36		
10. Research:	$\bar{X}$=	1.82	1.90	2.24	1.87	1.53		
	sd=	1.02	.91	1.21	1.05	.56	2.16	
	N=	39	20	29	54	36		

* < .05

** < .01

\+ < .001

++ < .0001

Table 4

Means, Standard Deviations, ANOVA F's, and Significant Duncan's for Comparisons of Two Levels of Non-Profit Rehabilitation Facility Administrators' and Three Levels of State/Federal Rehabilitation Agency Administrators' Responses on Work Functions for the 50 Inventory Items

Work Role Category	Item	Non-Profit Facility		State/Federal Agency			F Ratics	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 First-Line		
1. General Personnel Management:	I-1	4.18	4.00	3.79	3.39	4.11	3.44 **	1 & 5 vs 4
		1.02	1.03	.86	1.38	1.24		
$\bar{X}$= sd= N=		39	20	29	54	36		
	I-5	3.21	3.15	2.97	2.89	3.53	1.65	
$\bar{X}$= sd= N=		1.24	1.27	.91	1.37	1.16		
		39	20	29	54	36		
	I-7	3.49	3.65	3.00	2.43	3.11	5.04 +	1, 2, & 5 vs 4
$\bar{X}$= sd= N=		1.19	1.23	1.41	1.41	1.35		
		39	20	29	54	36		
	I-8	2.82	2.55	2.69	2.28	2.44	1.14	
$\bar{X}$= sd= N=		1.25	1.43	1.07	1.34	1.40		
		39	20	29	54	36		
	I-11	3.23	3.15	2.62	2.22	2.69	4.78 **	1 & 2 vs 4
$\bar{X}$= sd= N=		1.09	1.04	1.21	1.27	1.28		
		39	20	29	54	36		
	I-12	3.74	3.25	2.93	2.57	2.72	6.31 ++	1 vs 3, 4, & 5 2 vs 4
$\bar{X}$= sd= N=		1.07	1.29	1.16	1.25	1.16		
		39	20	29	54	36		

Table 4 Continued

Work Role Category	Item	Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 First-Line		
General Personnel Management (cont'd.)	I-13							1, 2, 3, & 5 vs 4
		3.72	3.65	3.35	2.76	3.69		
$\bar{X}$=		1.00	1.04	1.14	1.39	1.01	5.62 +	
sd=		39	20	29	54	36		
N=								
	I-16							
		3.51	2.95	2.93	2.80	3.31		1 vs 4
$\bar{X}$=		.91	1.10	1.07	1.39	1.14	2.65 *	
sd=		39	20	29	54	36		
N=								
	I-17							
		3.51	3.05	3.24	2.94	3.22		
$\bar{X}$=		1.05	1.10	1.06	1.07	1.05	1.73	
sd=		39	20	29	54	36		
N=								
2. Professional Management:	I-3							5 vs 1, 2. 3. & 4
		2.97	3.30	2.79	2.59	4.39		
$\bar{X}$=		1.22	1.38	1.50	1.54	1.02	10.54 ++	
sd=		39	20	29	54	36		
N=								
	I-4							
		2.15	1.90	2.52	2.37	3.75		5 vs k, 2, 3, & 4
$\bar{X}$=		1.33	1.25	1.43	1.46	1.36	8.88 ++	
sd=		39	20	29	54	36		
N=								
	I-9							
		1.54	2.10	1.48	1.48	2.39		5 vs 1, 3, & 4
$\bar{X}$=		1.07	1.37	.95	.95	1.36	4.96 +	
sd=		39	20	29	54	36		
N=								
	I-14							
		1.97	2.60	2.07	1.89	3.39		5 vs 1, 2, 3, & 4
$\bar{X}$=		1.27	1.10	1.33	1.08	1.18	10.52 ++	
sd=		39	20	29	54	36		
N=								

Table 4 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratios	Significant Duncan's ($p<.05$)
Professional Management: (cont'd.)		I-18							2 vs 1, 3, & 4 5 vs 1, 2, 3, & 4
	$\bar{X}$=		1.85	2.55	1.69	1.80	3.52		
	sd=		1.29	1.47	1.11	1.22	1.13	14.37++	
	N=		39	20	29	54	36		
		II-5							
	$\bar{X}$=		2.05	2.00	2.45	2.15	3.08		5 vs 1, 2, 3, & 4
	sd=		1.19	1.12	1.30	1.27	1.20	4.61**	
	N=		39	20	29	54	36		
3. Fiscal Management:		III-1							
	$\bar{X}$=		3.87	1.85	2.62	1.33	1.22		1 vs 2, 3, 4, & 5 3 vs 2, 4, & 5
	sd=		1.59	1.18	1.50	.64	.90	34.97++	
	N=		39	20	29	54	36		
		III-3							
	$\bar{X}$=		2.49	2.10	2.28	1.65	1.67		1 vs 4 & 5
	sd=		1.59	1.41	1.33	1.18	1.17	3.16*	
	N=		39	20	29	54	36		
		III-6							
	$\bar{X}$=		3.69	2.80	2.97	2.33	2.06		1 vs 2, 3, 4, & 5 2 & 3 vs 5
	sd=		1.20	1.24	1.05	1.23	1.12	11.38++	
	N=		39	20	29	54	36		
		III-7							
	$\bar{X}$=		3.03	2.05	2.52	2.00	1.47		1 vs 2, 4, & 5 3 vs 5
	sd=		1.37	1.28	1.24	1.18	.85	9.07++	
	N=		39	20	29	54	36		
		III-8							
	$\bar{X}$=		4.15	2.95	3.55	2.43	2.36		1 vs 2, 3, 4, & 5 2 vs 5 3 vs 4 & 5
	sd=		1.07	1.57	1.21	1.11	1.31	15.68++	
	N=		39	20	29	54	36		

Table 4 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratios	Significant Duncan's ($p < .05$)
Fiscal Management: (cont'd.)		III-9	2.82	2.15	2.28	1.72	1.50		1 vs 4 & 5 3 vs 5
	$\bar{X}$=		1.54	1.31	1.16	1.12	.85	7.13 ++	
	sd=		39	20	29	54	36		
		III-10	3.80	2.35	3.03	2.50	1.86		1 vs 2, 3, 4, & 5 3 & 4 vs 5
	$\bar{X}$=		1.32	1.23	1.40	1.19	.99	13.30 ++	
	sd=								
	N=		39	20	29	54	36		
4. Production Management:		V-2	1.90	1.85	1.62	1.43	1.33		
	$\bar{X}$=		1.14	1.27	.98	.88	.86	2.21	
	sd=								
	N=		39	20	29	54	36		
		V-3	2.00	1.90	1.66	1.19	1.25		1 vs 4 & 5 2 vs 4 & 5 3 vs 4
	$\bar{X}$=		1.12	1.33	1.05	.48	.77	6.27 ++	
	sd=								
	N=		39	20	29	54	36		
		V-4	1.95	1.60	1.79	1.33	1.72		
	$\bar{X}$=		1.14	1.05	1.08	.75	1.11	2.36	
	sd=								
	N=		38	20	29	54	36		
		V-5	1.95	1.70	1.66	1.24	1.47		1 vs 4
	$\bar{X}$=		1.21	1.13	.97	.67	.91	3.34 *	
	sd=								
	N=		39	20	29	54	36		
		V- 6	2.26	1.75	2.00	1.70	1.64		
	$\bar{X}$=		1.21	1.12	1.04	1.06	.90	2.20	
	sd=								
	N=		39	20	29	54	36		

Table 4 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratios	Significant Duncan's ($p<.05$)
Production Management: (cont'd.)		V-7							
	$\bar{X}$=		2.97	2.40	2.14	1.59	1.50		1 vs 3, 4, & 5 2 & 3 vs 4 & 5
	sd=		1.33	1.50	1.25	1.13	.85	10.26 ++	
	N=		39	20	29	54	36		
5. Program Planning and Evaluation:		II-1							
	$\bar{X}$=		4.00	3.70	3.97	2.93	1.78		1, 2, & 3 vs 4 & 5
	sd=		1.30	1.17	1.02	1.18	1.05	23.17 ++	
	N=		39	20	29	54	36		
		II-2							
	$\bar{X}$=		3.59	2.90	3.69	2.59	1.61		1 & 3 vs 2, 4, & 5 2 vs 5 4 vs 5
	sd=		1.39	1.37	.97	1.22	.99	17.47 ++	
	N=		39	20	29	54	36		
		II-4							
	$\bar{X}$=		2.80	2.40	2.41	2.32	2.03		
	sd=		1.03	1.47	1.15	1.04	1.00	2.35	
	N=		39	20	29	54	36		
		II-6							
	$\bar{X}$=		2.82	2.35	3.35	3.37	3.53		3 vs 2 4 & 5 vs 1 & 2
	sd=		1.21	.93	1.29	1.19	1.06	4.81 +	
	N=		39	20	29	54	36		
		II-7							
	$\bar{X}$=		3.62	3.65	3.52	3.54	3.06		
	sd=		1.25	1.09	1.02	1.06	1.24	1.53	
	N=		39	20	29	54	36		
		II-9							
	$\bar{X}$=		3.26	3.40	3.52	3.24	2.17		1, 2, 3, & 4 vs 5
	sd=		1.41	1.14	.87	1.15	1.13	7.36 ++	
	N=		39	20	29	54	36		

Table 4 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratios	Significant Duncan's ($p<.05$)
Program Planning and Evaluation: (cont'd.)	$\bar{X}=$	II-10	2.97	3.40	3.38	3.07	2.17		1, 2, 3, & 4 vs 5
	sd=		1.25	1.14	1.21	1.16	1.11	5.84 +	
	N=		39	20	29	54	36		
	$\bar{X}=$	II-11	2.74	2.63	2.45	2.09	1.75		1 vs 4 & 5
	sd=		1.25	1.07	1.30	1.25	.91	4.25 **	2 & 3 vs 5
	N=		39	20	29	54	36		
6. Public Relations:	$\bar{X}=$	II-3	3.74	2.95	2.61	1.80	1.47		1 vs 2, 3, 4, & 5
	sd=		1.19	1.47	1.35	1.16	.88	22.74 ++	2 & 3 vs 4 & 5
	N=		39	20	29	54	36		
	$\bar{X}=$	IV-1	3.44	2.55	3.35	2.78	2.72		1 & 3 vs 2, 4, & 5
	sd=		1.35	1.19	.86	1.11	1.00	4.03 **	
	N=		39	20	29	54	36		
	$\bar{X}=$	IV-5	4.10	2.15	2.03	1.32	1.19		1 vs 2, 3, 4 & 5
	sd=		1.19	1.14	1.12	.80	.62	59.15 ++	2 & 3 vs 4 & 5
	N=		39	20	29	54	36		
	$\bar{X}=$	IV-6	2.77	1.45	2.35	1.72	1.89		1 vs 2, 4, & 5
	sd=		1.42	.61	1.08	1.00	.98	7.81 ++	3 vs 2 & 4
	N=		39	20	29	54	36		
	$\bar{X}=$	IV-7	3.39	2.70	2.97	2.46	1.92		1 vs 4 & 5
	sd=		1.21	1.30	1.24	1.34	1.00	7.50 ++	2, 3, & 4 vs 5
	N=		39	20	29	54	36		

Table 4 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	2 Middle Level	State/Federal Agency 3 Top Level	4 Middle Level	5 First-Line	F Ratios	Significant Duncan's ($p<.05$)
Public Relations: (cont'd.)		IV-8	3.03	1.70	2.72	1.67	1.67		1 & 3 vs 2, 4, & 5
	$\bar{X}$=		1.20	.87	1.31	.87	.93	14.93 ++	
	sd=		39	20	29	54	36		
		IV-9	2.36	1.60	2.24	1.50	1.47		1 & 3 vs 2, 4, & 5
	$\bar{X}$=		1.37	.88	1.06	.84	.74	6.81 ++	
	sd=		39	20	29	54	36		
		IV-10	1.80	1.60	2.48	1.85	1.39		3 vs 1, 2, 4, & 5
	$\bar{X}$=		1.03	1.05	.87	1.09	.65	5.54 +	4 vs 5
	sd=		39	20	29	54	36		
		IV-11	2.87	2.05	2.41	1.91	1.56		1 vs 2, 4, & 5
	$\bar{X}$=		1.30	.83	1.12	1.01	.74	8.95 ++	3 vs 4 & 5
	sd=		39	20	29	54	36		
7. Marketing Service:		IV-3	2.31	1.60	1.76	1.37	1.28		1 vs 2, 3, 4, & 5
	$\bar{X}$=		1.34	1.00	1.06	.65	.66	7.33++	
	sd=		39	20	29	54	36		
		IV-4	2.08	1.50	1.48	1.41	1.42		1 vs 2, 3, 4, & 5
	$\bar{X}$=		1.16	.69	.87	.81	.77	3.98**	
	sd=		39	20	29	54	36		
8. Labor Relations:		I-10	2.74	2.15	1.72	1.57	1.64		1 vs 3, 4, & 5
	$\bar{X}$=		1.45	1.35	.92	.92	.83	7.91++	
	sd=		39	20	29	54	36		

Table 4 Continued

Work Role Category	Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratios	Significant Duncan's ($p<.05$)
9. Purchasing:	III-4	2.23	2.90	2.10	1.69	2.00		1 vs 4 2 vs 1, 3, 4 & 5
$\bar{X}$=		1.11	1.45	1.08	1.04	1.17	4.42 **	
sd=		39	20	29	54	36		
N=								
10. Research:	II-8	1.82	1.90	2.24	1.87	1.53		
$\bar{X}$=		1.02	.91	1.22	1.05	.56	2.16	
sd=		39	20	29	54	36		
N=								

* < .05
** < .01
\+ < .001
\++ < .0001

Table 5

Means, Standard Deviations, ANOVA F's, and Significant Duncan's for Comparisons of Two Levels of Non-Profit Rehabilitation Facility Administrators' and Three Levels of State/Federal Rehabilitation Agency Administrators' Responses on Perceived In-Service Training Needs for the 10 Work Role Categories

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratio	Significant Duncan's ($p < .05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 First-Line		
1. General Personnel Management:	$\bar{X}$=	2.90	2.71	2.82	2.52	2.87		
	sd=	.76	.75	.72	.87	.74	1.76	
	N=	39	20	29	54	36		
2. Professional Management:	$\bar{X}$=	2.14	2.49	2.41	2.29	2.76		5 vs 1 & 4
	sd=	.70	.78	.91	.85	.70	3.31 *	
	N=	39	20	29	54	36		
3. Fiscal Management:	$\bar{X}$=	2.96	2.68	2.68	2.23	1.98		1 vs 4 & 5
	sd=	.95	1.19	.98	.90	.95	6.16++	2 & 3 vs 5
	N=	39	20	29	54	36		
4. Production Management:	$\bar{X}$=	2.70	2.62	2.08	1.83	1.69		1 vs 3, 4, & 5
	sd=	1.12	1.38	.97	.98	1.00	6.36++	2 vs 4 & 5
	N=							
5. Program Planning and Evaluation:	$\bar{X}$=	3.02	2.79	2.93	2.86	2.33		1, 3 & 4 vs 5
	sd=	.79	.78	.93	.91	.82	3.55**	
	N=	39	20	29	54	36		

Table 5 Continued

Work Role Category		Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 MiddleLevel	State/Federal Agency 5 First-Line	F Ratio	Significant Duncan's ($p < .05$)
6. Public Relations:	$\bar{X}$=	2.79	2.49	2.61	2.09	1.85	7.60 ++	1 vs 4 & 5 3 vs 4 2 & 3 vs 5
	sd=	.83	.94	.88	.88	.73		
	N=	39	20	29	54	36		
7. Marketing Service:	$\bar{X}$=	2.80	2.47	2.05	1.78	1.38	9.75 ++	1 & 2 vs 3, 4, & 5
	sd=	1.11	1.47	1.10	1.04	.81		
	N=	38	19	29	54	36		
8. Labor Relations:	$\bar{X}$=	3.22	2.89	2.10	2.02	2.22	7.60 ++	1 & 2 vs 3, 4, & 5
	sd=	1.13	1.52	.98	1.14	1.12		
	N=	37	19	29	54	36		
9. Purchasing:	$\bar{X}$=	2.05	2.35	1.76	1.65	1.94	2.16	2 vs 4
	sd=	.97	1.14	1.02	.87	1.19		
	N=	37	20	29	54	36		
10. Research:	$\bar{X}$=	2.32	2.53	2.62	2.43	1.92	1.71	3 vs 5
	sd=	1.16	1.35	1.35	1.21	1.00		
	N=	38	19	29	54	36		

* < .05
** < .01
\+ < .001
++ < .0001

Table 6

Means, Standard Deviations, ANOVA F's, and Significant Duncan's for Comparisons of Two Levels of Non-Profit Rehabilitation Facility Administrators' and Three Levels of State/Federal Rehabilitation Agency Administrators' Responses on Perceived In-Service Training Needs for the 50 Inventory Items

Work Role Category	Item	Non-Profit Facility		State/Federal Agency			F Ratio	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 First-Line		
1. General Personnel Management:	I-1	3.18	3.00	3.34	3.17	3.36		
$\bar{X}$=		.91	.97	.94	1.01	.96	.64	
sd=		39	20	29	54	36		
N=								
	I-5	2.95	3.05	3.03	2.69	3.50		
$\bar{X}$=		1.05	1.23	1.09	1.24	1.06	2.80 *	5 vs 4
sd=		39	20	29	54	36		
N=								
	I-7	2.67	2.55	2.72	2.30	2.72		
$\bar{X}$=		1.13	1.19	1.16	1.11	1.11	1.16	
sd=		39	20	29	54	36		
N=								
	I-8	2.36	2.15	2.59	2.22	2.39		
$\bar{X}$=		1.11	1.18	1.02	1.06	1.13	.70	
sd=		39	20	29	54	36		
N=								
	I-11	2.51	2.30	2.28	1.98	2.50		
$\bar{X}$=		1.14	.98	.92	1.04	1.11	1.96	
sd=		39	20	29	54	36		
N=								
	I-12	3.21	3.05	2.90	2.56	2.75		
$\bar{X}$=		2.06	.89	.90	1.21	1.03	2.41	
sd=		39	20	29	54	36		
N=								

Table 6 Continued

Work Role Category	Item	Non-Profit Facility		State/Federal Agency			F Ratio	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 First-Line		
General Personnel Management (cont'd.)	I-13	3.31	3.05	2.93	2.83	3.14		
	$\bar{X}$=	.98	1.28	.88	1.16	1.07	1.25	
	sd=	39	20	29	54	36		
	N=							
	I-16	2.95	2.70	2.93	2.59	2.97		
	$\bar{X}$=	.87	1.17	.88	1.17	1.08	1.10	
	sd=	39	20	29	54	36		
	N=							
	I-17	2.72	2.45	2.62	2.37	2.53		
	$\bar{X}$=	1.03	1.10	.98	.96	1.13	.74	
	sd=	39	20	29	54	36		
	N=							
2. Professional Management:	I-3	2.54	2.70	2.79	2.61	3.44		5 vs 1, 2, 3, & 4
	$\bar{X}$=	1.05	.98	1.21	1.27	1.03	3.84 **	
	sd=	39	20	29	54	36		
	N=							
	I-4	1.92	2.25	2.79	2.54	3.36		3, 4 & 5 vs 1
	$\bar{X}$=	1.16	1.33	1.24	1.38	1.02	6.92 ++	5 vs 2 & 4
	sd=	39	20	29	54	36		
	N=							
	I-9	1.49	2.20	2.00	1.98	2.22		2 & 5 vs 1
	$\bar{X}$=	.97	1.24	1.00	1.12	1.25	2.50 *	
	sd=	39	20	29	54	36		
	N=							
	I-14	2.26	2.55	2.41	2.44	2.61		
	$\bar{X}$=	1.29	1.32	1.15	1.36	1.13	.41	
	sd=	39	20	29	54	36		
	N=							

Table 6 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratio	Significant Duncan's ($p<.05$)
Professional Management: (cont'd.)		I-18							
	$\bar{X}$=		1.77	2.10	1.90	1.81	2.36		
	sd=		1.04	1.25	1.18	1.07	1.05	1.84	
	N=		39	20	29	54	36		
		II-5							
	$\bar{X}$=		2.10	2.35	2.48	2.26	2.58		
	sd=		1.21	1.35	1.09	1.14	1.05	.99	
	N=		39	20	29	54	36		
3. Fiscal Management:		III-1							1 & 3 vs 4 & 5
	$\bar{X}$=		3.21	2.55	2.79	1.93	1.72		
	sd=		1.20	1.67	1.40	1.08	1.16	9.38++	2 vs 5
	N=		39	20	29	54	36		
		III-3							
	$\bar{X}$=		2.59	2.40	2.34	1.87	1.97		
	sd=		1.52	1.43	1.32	1.15	1.28	2.15	
	N=		39	20	29	54	36		
		III-6							
	$\bar{X}$=		3.13	2.85	2.76	2.44	2.22		1 vs 4 & 5
	sd=		1.22	1.04	1.12	1.24	1.17	3.39*	
	N=		39	20	29	54	36		
		III-7							
	$\bar{X}$=		2.87	2.55	2.41	2.26	1.94		1 vs 4 & 5
	sd=		1.26	1.47	1.24	1.20	1.26	2.76*	
	N=		39	20	29	54	36		
		III-8							
	$\bar{X}$=		3.26	2.75	2.97	2.52	2.08		1 vs 4 & 5
	sd=		1.27	1.45	1.24	1.18	1.30	4.64**	
	N=		39	20	29	54	36		

Table 6 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratio	Significant Duncan's ($p<.05$)
Fiscal Management: (cont'd.)		III-9							
	$\bar{X}$=		2.59	2.50	2.52	2.02	2.00		
	sd=		1.46	1.43	1.21	1.17	1.35	1.86	
	N=		39	20	29	54	36		
		III-10							
	$\bar{X}$=		3.03	2.50	2.79	2.59	1.92		1, 3 & 4 vs 5
	sd=		1.33	1.40	1.15	1.14	1.03	4.39**	
	N=		39	20	29	54	36		
4. Production Management:		V-2							
	$\bar{X}$=		2.38	2.45	1.97	1.70	1.53		1 & 2 vs 4 & 5
	sd=		1.52	1.67	1.12	1.02	1.11	3.49**	
	N=		39	20	29	54	36		
		V-3							
	$\bar{X}$=		2.41	2.50	1.93	1.65	1.42		1 & 2 vs 4 & 5
	sd=		1.39	1.73	1.10	.97	1.00	5.06 +	
	N=		39	20	29	54	36		
		V-4							
	$\bar{X}$=		2.49	2.35	2.14	1.87	1.92		
	sd=		1.36	1.53	1.19	1.20	1.36	1.64	
	N=		39	20	29	54	36		
		V-5							
	$\bar{X}$=		2.64	2.45	2.00	1.78	1.69		1 vs 4 & 5
	sd=		1.42	1.54	1.17	1.14	1.14	4.00**	
	N=		39	20	29	54	36		
		V- 6							
	$\bar{X}$=		2.69	2.60	2.31	2.13	1.86		
	sd=		1.44	1.57	1.20	1.30	1.15	1.33	
	N=		39	20	29	54	36		

Table 6 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	2 Middle Level	State/Federal Agency 3 Top Level	4 Middle Level	5 First-Line	F Ratio	Significant Duncan's ($p<.05$)
Production Management: (cont'd.)		V-7	2.90	2.60	2.07	1.85	1.69		
	$\bar{X}$=		1.19	1.47	1.25	1.27	1.14	6.15++	1 vs 3, 4 & 5 2 vs 4 & 5
	sd=		39	20	29	54	36		
	N=								
5. Program Planning and Evaluation:		II-1	3.38	2.95	3.38	3.07	2.03		1, 2, 3 & 4 vs 5
	$\bar{X}$=		1.25	1.19	1.12	1.08	1.18	8.23++	
	sd=		39	20	29	54	36		
	N=								
		II-2	3.33	3.00	3.17	2.69	2.06		1 vs 4 & 5
	$\bar{X}$=		1.13	1.30	1.00	1.30	1.19	6.36++	
	sd=		39	20	29	54	36		2, 3, & 4 vs 5
	N=								
		II-4	2.85	2.45	2.62	2.52	2.25		
	$\bar{X}$=		1.09	1.28	1.18	1.29	.97	1.30	
	sd=		39	20	29	54	36		
	N=								
		II-6	2.54	2.45	2.69	2.96	2.92		
	$\bar{X}$=		1.14	1.00	1.23	1.18	1.20	1.30	
	sd=		39	20	29	54	36		
	N=								
		II-7	2.95	2.90	2.93	3.26	2.75		
	$\bar{X}$=		1.05	1.17	1.10	1.10	1.25	1.24	
	sd=		39	20	29	54	36		
	N=								
		II-9	2.85	2.80	3.17	3.11	2.28		1, 3 & 4 vs 5
	$\bar{X}$=		1.18	.89	1.00	1.11	1.09	3.95**	
	sd=		39	20	29	54	36		
	N=								

Table 6 Continued

Work Role Category	Item	Non-Profit Facility 1 Top Level	2 Middle Level	State/Federal Agency 3 Top Level	4 Middle Level	5 First-Line	F Ratio	Significant Duncan's ($p<.05$)
Program Planning and Evaluation: (cont'd.)	II-10							
	$\bar{X}$=	3.05	3.10	3.00	2.89	2.42		
	sd=	1.12	1.17	1.13	1.09	1.16	2.02	
	N=	39	20	29	54	36		
	II-11							
	$\bar{X}$=	2.74	2.55	2.48	2.22	1.97		1 vs 4 & 5
	sd=	1.21	1.10	1.09	1.13	1.08	2.62 *	
	N=	39	20	29	54	36		
6. Public Relations:	II-3							
	$\bar{X}$=	3.62	3.35	2.76	2.26	2.08		1 vs 3, 4 & 5
	sd=	1.07	1.35	1.22	1.42	1.18	10.30 ++	2 vs 4
	N=	39	20	29	54	36		2 & 3 vs 5
	IV-1							
	$\bar{X}$=	2.67	2.25	2.66	2.63	2.64		
	sd=	1.34	1.21	.94	1.15	1.18	.51	
	N=	39	20	29	54	36		
	IV-5							
	$\bar{X}$=	3.05	2.10	2.00	1.43	1.28		1 vs 2, 3, 4 & 5
	sd=	1.21	1.17	1.00	.88	.74	20 03 ++	2 & 3 vs 4 & 5
	N=	39	20	29	54	36		
	IV=6							
	$\bar{X}$=	2.49	1.95	2.38	1.81	1.92		1 vs 4 & 5
	sd=	1.32	1.23	.98	1.05	1.05	2.80 *	3 vs 4
	N=	39	20	29	54	36		
	IV-7							
	$\bar{X}$=	2.51	2.45	2.76	2.28	1.89		1 & 3 vs 5
	sd=	1.07	1.15	1.19	1.31	.98	2.61 *	
	N=	39	20	29	54	36		

Table 6 Continued

Work Role Category		Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratio	Significant Duncan's ($p<.05$)
Public Relations: (cont'd.)		IV-8							
	$\bar{X}$=		2.82	2.40	2.79	2.17	1.81		1 & 3 vs 4 & 5
	sd=		1.10	1.31	1.18	1.24	1.04	4.91 +	
	N=		39	20	29	54	36		
		IV-9							
	$\bar{X}$=		2.46	2.35	2.62	1.96	1.72		1, 2 & 3 vs 5
	sd=		1.23	1.31	1.15	1.12	1.03	3.64 **	3 vs 4
	N=		39	20	29	54	36		
		IV-10							
	$\bar{X}$=		2.13	2.55	2.69	2.13	1.56		1, 2, 3 & 4 vs 5
	sd=		1.28	1.43	1.07	1.20	.94	4.39 **	
	N=								
		IV-11							
	$\bar{X}$=		2.90	2.65	2.79	2.11	1.81		1 vs 4 & 5
	sd=		1.12	.99	1.24	1.13	1.14	6.36 ++	2 & 3 vs 5
	N=		39	20	29	54	36		
7. Marketing Service:		IV-3							
	$\bar{X}$=		2.62	2.25	2.00	1.70	1.33		1 vs 3, 4, & 5
	sd=		1.31	1.45	1.10	1.06	.79	7.09 ++	2 & 3 vs 5
	N=		39	20	29	54	36		
		IV-4							
	$\bar{X}$=		2.05	2.00	1.86	1.63	1.64		
	sd=		1.05	1.34	1.06	.94	1.10	1.29	
	N=		39	20	29	54	36		
8. Labor Relations:		I-10							
	$\bar{X}$=		3.05	2.75	2.10	2.02	2.22		1 vs 3, 4 & 5
	sd=		1.32	1.62	.98	1.14	1.12	5.16 +	2 vs 4
	N=		39	20	29	54	36		

Table 6 Continued

Work Role Category	Item	Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 First-Line	F Ratio	Significant Duncan's ($p<.05$)
9. Purchasing:	III-4							
		1.95	2.35	1.76	1.65	1.94		
$\bar{X}$=		1.05	1.14	1.02	.87	1.19	1.88	
sd=		39	20	29	54	36		
N=								
10. Research:	II-8							
		2.26	2.40	2.62	2.43	1.92		
$\bar{X}$=		1.21	1.43	1.35	1.21	1.00	1.58	
sd=		39	20	29	54	36		
N=								

* < .05
** < .01
\+ < .001
\++ < .0001

Table 7

Means, Standard Deviations, ANOVA F's and Significant Duncan's for Comparisons of Two Levels of Non-Profit Rehabilitation Facility Administrators' and Three Levels of State/Federal Rehabilitation Agency Administrators' Responses on the Perceived Preparational Needs for the 10 Work Role Categories

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 Supervisor		
1. General Personnel Management:	$\bar{X}$	3.50	3.59	3.21	3.22	3.34	1.37	
	sd	.77	.69	.71	.87	.70		
	N	39	15	28	66	24		
2. Professional Management:	$\bar{X}$	3.22	3.38	2.96	3.05	2.92	1.39	
	sd	.71	.57	.77	.82	.74		
	N	39	15	28	66	24		
3. Fiscal Management:	$\bar{X}$	3.58	3.93	3.31	3.14	2.75	4.42 **	2 vs 4, 5 1 vs 4, 5 3 vs 5
	sd	.89	.64	1.00	1.09	1.15		
	N	39	15	28	66	24		
4. Production Management:	$\bar{X}$	3.29	3.22	2.77	2.70	2.49	2.94 *	1 vs 4, 5
	sd	1.08	1.06	1.05	1.12	1.02		
	N	38	15	28	65	23		
5. Program Planning & Evaluation:	$\bar{X}$	3.70	3.78	3.50	3.34	2.95	5.08 +	1, 2, 3, 4 vs 5
	sd	.67	.46	.79	.79	.73		
	N	39	15	28	66	24		
6. Public Relations:	$\bar{X}$	3.60	3.51	3.24	2.97	2.73	6.19 ++	1 vs 4, 5 2 vs 4, 5 3 vs 5
	sd	.74	.75	.83	.83	.88		
	N	39	15	28	66	24		

Table 7 Continued

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 Supervisor		
7. Marketing Service:	$\bar{X}$	3.24	3.10	2.86	2.78	2.42	2.75 *	1 vs 4, 5
	sd	.99	.91	1.03	1.02	1.20		
	N	39	15	28	65	24		
8. Labor Relations:	$\bar{X}$	3.21	3.13	2.68	2.56	2.75	2.08	1 vs 4
	sd	1.22	1.25	1.09	1.30	1.07		
	N	39	15	28	66	24		
9. Purchasing:	$\bar{X}$	2.62	2.79	2.39	2.59	2.17	1.09	
	sd	1.02	1.05	1.03	1.14	1.13		
	N	39	14	28	66	24		
10. Research:	$\bar{X}$	2.77	3.27	3.21	3.05	2.52	1.73	
	sd	.99	1.03	1.23	1.20	1.38		
	N	39	15	28	65	23		

* < .05

** < .01

\+ < .001

++ < .0001

Table 8

Means, Standard Deviations, ANOVA F's and Significant Duncan's for Comparisons of Two Levels of Non-Profit Rehabilitation Facility Administrators' and Three Levels of State/Federal Rehabilitation Agency Administrators' Responses on the Perceived Preparational Needs for the 50 Inventory Items

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p < .05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 Supervisor		
1. General Personnel Management: Item I-1	$\bar{X}$	4.03	3.87	3.79	3.65	4.00	.99	
	sd	.99	1.19	1.03	1.13	.83		
	N	39	15	28	66	24		
I-5	$\bar{X}$	3.95	3.60	3.68	3.66	3.71	.52	
	sd	1.00	1.12	1.09	1.14	1.12		
	N	39	15	28	66	24		
I-7	$\bar{X}$	3.67	3.53	2.89	3.15	3.38	2.80 *	1 vs 3, 4
	sd	1.08	1.13	.92	1.07	1.04		
	N	39	15	28	66	24		
I-8	$\bar{X}$	3.15	3.13	2.54	2.82	2.91	1.74	
	sd	1.14	1.25	.84	1.02	.97		
	N	39	15	28	66	24		
I-11	$\bar{X}$	2.97	2.93	2.57	2.53	2.67	1.24	
	sd	1.04	1.03	.96	1.11	1.40		
	N	39	15	28	66	24		
I-12	$\bar{X}$	3.23	3.47	3.46	3.20	3.46	.57	
	sd	1.09	.92	1.04	1.14	1.02		
	N	39	15	28	66	24		
I-13	$\bar{X}$	3.82	3.87	3.64	3.42	3.63	1.01	
	sd	1.05	.99	1.13	1.14	1.21		
	N	39	15	28	66	24		

Table 8 Continued

Work Role Category		Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 Supervisor	F Ratios	Significant Duncan's ($p<.05$)
1. General Personnel Management: Item I-16	$\bar{X}$	3.36	4.07	3.39	3.29	3.50	1.64	
	sd	1.09	1.10	1.07	1.14	.89		
	N	39	15	28	65	24		
Item I-17	$\bar{X}$	3.36	3.80	2.96	3.20	2.79	2.60 *	2 vs 3, 5
	sd	1.18	1.01	1.04	1.06	.98		
	N	39	15	28	65	24		
2. Professional Management: Item I-3	$\bar{X}$	3.49	3.33	3.36	3.46	3.42	.10	
	sd	.89	1.18	1.10	1.14	1.06		
	N	39	15	28	66	24		
I-4	$\bar{X}$	3.46	3.27	3.32	3.55	3.33	.44	
	sd	.94	1.22	1.02	1.07	.96		
	N	39	15	28	66	24		
I-9	$\bar{X}$	2.85	3.47	2.79	2.62	2.71	1.81	
	sd	1.14	.83	1.26	1.08	1.16		
	N	39	15	28	66	24		
I-14	$\bar{X}$	3.33	3.73	2.93	2.77	2.75	3.61 **	1 vs 4, 5 2 vs 3, 4, 5
	sd	1.06	.88	1.33	1.08	1.03		
	N	39	15	28	66	24		
I-18	$\bar{X}$	2.82	3.00	2.25	2.66	2.54	1.66	
	sd	.82	1.00	.93	1.27	1.10		
	N	39	15	28	65	24		
II-5	$\bar{X}$	3.37	3.47	3.11	3.18	2.63	2.40	
	sd	1.00	.64	1.03	1.06	1.14		
	N	38	15	28	63	24		

Table 8 Continued

Work Role Category		Non-Profit Facility 1 Top Level	Non-Profit Facility 2 Middle Level	State/Federal Agency 3 Top Level	State/Federal Agency 4 Middle Level	State/Federal Agency 5 Supervisor	F Ratios	Significant Duncan's ($p<.05$)
3. Fiscal Management: Item III-1	$\bar{X}$	3.92	4.13	3.71	2.97	2.75	6.32 ++	1, 2, 3 vs 4, 5
	sd	1.11	.99	1.24	1.38	1.65		
	N		39	15	28	65		
III-3	$\bar{X}$	3.26	3.93	3.07	2.99	2.88	1.79	
	sd	1.25	.73	1.27	1.40	1.54		
	N	39	14	28	66	24		
III-6	$\bar{X}$	3.80	4.00	3.14	3.15	2.88	4.35 **	1 & 2 vs 3, 4, 5
	sd	1.06	.93	1.18	1.26	1.12		
	N	39	15	28	66	24		
III-7	$\bar{X}$	3.46	4.00	3.39	3.14	2.75	2.96 *	1 vs 5
	sd	1.14	.85	1.10	1.26	1.48		2 vs 4, 5
	N	39	15	28	66	24		
III-8	$\bar{X}$	3.77	4.00	3.36	3.35	2.63	4.20 **	1, 2, 3, 4 vs 5
	sd	1.11	1.20	1.22	1.27	1.31		
	N	39	15	28	66	24		
III-9	$\bar{X}$	3.39	3.60	3.18	3.02	2.67	1.86	
	sd	1.16	.99	1.16	1.32	1.52		
	N	39	15	28	66	24		
III-10	$\bar{X}$	3.49	3.71	3.32	3.36	2.71	2.00	
	sd	1.12	1.07	1.31	1.29	1.33		
	N	39	14	28	66	24		
4. Production Management: Item V-2	$\bar{X}$	3.05	3.07	2.75	2.50	2.08	3.08 *	1, 2 vs 5
	sd	1.26	1.28	1.08	1.24	1.21		
	N	39	15	28	66	24		

Table 8 Continued

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 Supervisor		
4. Production Management: Item V-3	$\bar{X}$	3.28	3.20	2.52	2.64	1.96	4.49 **	1, 2, 4 vs 5 1 vs 3, 4
	sd	1.36	1.42	1.31	1.36	1.20		
	N	39	15	27	66	24		
V-4	$\bar{X}$	3.31	3.20	3.00	2.74	2.29	2.59 *	1 vs 5
	sd	1.38	1.42	1.36	1.29	1.33		
	N	39	15	28	66	24		
V-5	$\bar{X}$	3.15	3.20	2.89	2.68	2.33	1.91	
	sd	1.37	1.32	1.42	1.32	1.24		
	N	39	15	28	66	24		
V-6	$\bar{X}$	3.21	2.27	2.75	2.82	2.71	1.10	
	sd	1.38	1.16	1.32	1.31	1.27		
	N	39	15	28	66	24		
V-7	$\bar{X}$	3.21	3.40	2.64	2.59	2.13	4.16 **	1, 2 vs 4, 5
	sd	1.30	.91	1.06	1.30	1.36		
	N	39	15	28	66	24		
5. Program Planning & Evaluation: Item II-1	$\bar{X}$	3.87	4.00	3.79	2.28	2.88	4.59 **	1, 2 vs 4, 5 3 vs 5
	sd	1.13	1.07	1.10	1.16	1.19		
	N	39	15	28	64	24		
II-2	$\bar{X}$	3.97	4.00	3.82	3.48	2.79	6.20 ++	1, 2, 3, 4 vs 5
	sd	.81	.93	1.06	1.09	1.14		
	N	39	15	28	65	24		
II-4	$\bar{X}$	3.67	3.47	3.29	3.22	2.96	1.80	
	sd	1.01	1.19	1.08	1.14	1.12		
	N	39	15	28	63	24		

Table 8 Continued

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 Supervisor		
5. Program Planning & Evaluation: Item II-6	$\bar{X}$	3.21	3.33	2.89	3.03	2.75	1.24	
	sd	.92	.82	.92	1.13	.94		
	N	39	15	28	65	24		
II-7	$\bar{X}$	3.87	4.13	3.57	3.58	3.04	3.44 **	1, 2, 4 vs 5
	sd	.86	.74	1.07	1.18	.96		
	N	39	15	28	64	24		
II-9	$\bar{X}$	3.82	3.87	3.21	3.46	3.25	1.91	
	sd	.94	.74	1.23	1.06	.94		
	N	39	15	28	66	24		
II-10	$\bar{X}$	4.00	4.20	3.64	3.65	3.17	4.09 **	1, 2, 3, 4 vs 5
	sd	.86	.56	.95	.98	1.09		
	N	39	15	28	65	24		
II-11	$\bar{X}$	3.21	3.20	2.82	3.06	2.75	1.10	
	sd	.95	.68	1.25	.98	1.23		
	N	39	15	28	65	24		
6. Public Relations: Item II-3	$\bar{X}$	3.85	4.40	3.29	2.72	2.54	11.35 ++	1, 2 vs 4, 5 2 vs 3
	sd	.96	.99	1.24	1.26	1.32		
	N	39	15	28	65	24		
IV-1	$\bar{X}$	3.69	3.20	3.21	3.30	3.08	1.45	
	sd	1.10	.78	1.10	1.23	1.02		
	N	39	15	28	66	24		
IV-5	$\bar{X}$	3.85	3.20	2.89	2.24	1.96	14.28 ++	1 vs 3, 4, 5 2 vs 4, 5 3 vs 4, 5
	sd	1.07	1.37	1.23	1.22	1.23		
	N	39	15	28	66	24		

Table 8 Continued

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 Supervisor		
6. Public Relations: Item IV-6	$\bar{X}$	3.44	2.73	2.93	2.71	2.54	3.52 **	1 vs 2, 4, 5
	sd	1.05	1.22	1.09	1.09	1.14		
	N	39	15	28	66	24		
IV-7	$\bar{X}$	3.41	3.33	3.18	3.11	2.63	1.96	
	sd	1.04	1.35	.98	1.20	1.01		
	N	39	15	28	66	24		
IV-8	$\bar{X}$	3.62	3.80	3.41	3.27	3.21	1.06	
	sd	1.04	1.08	1.12	1.31	1.32		
	N	39	15	27	66	24		
IV-9	$\bar{X}$	3.62	3.33	3.32	3.08	3.04	1.39	
	sd	1.12	.98	1.28	1.19	1.57		
	N	39	15	28	66	24		
IV-10	$\bar{X}$	3.31	3.80	3.57	3.09	2.63	3.11 *	1, 2, 3 vs 5
	sd	1.30	1.08	1.03	1.21	1.35		
	N	39	15	28	66	24		
IV-11	$\bar{X}$	3.62	3.80	3.36	3.09	2.79	3.39 *	1, 2 vs 4, 5
	sd	.96	1.01	1.25	1.11	1.22		
	N	39	15	28	66	24		
7. Marketing Service: Item IV-3	$\bar{X}$	3.26	3.07	2.89	2.79	2.42	2.25	
	sd	1.06	1.10	1.13	1.16	1.28		
	N	38	15	28	66	24		
IV-4	$\bar{X}$	3.03	2.93	2.29	2.27	2.25	4.37 **	1 vs 3, 4, 5 2 vs 4, 5
	sd	.93	.88	1.15	1.02	1.36		
	N	39	15	28	66	24		

Table 8 Continued

Work Role Category		Non-Profit Facility		State/Federal Agency			F Ratios	Significant Duncan's ($p<.05$)
		1 Top Level	2 Middle Level	3 Top Level	4 Middle Level	5 Supervisor		
8. Labor Relations: Item I-10	$\bar{X}$	3.21	3.13	2.68	2.56	2.75	2.08	
	sd	1.22	1.25	1.09	1.30	1.07		
	N	39	15	28	66	24		
9. Purchasing: Item III-4	$\bar{X}$	2.62	2.79	2.39	2.59	2.17	1.09	
	sd	1.02	1.05	1.03	1.14	1.13		
	N	39	14	28	66	24		
10. Research: Item II-8	$\bar{X}$	2.77	3.27	3.21	3.00	2.52	1.60	
	sd	.99	1.03	1.23	1.25	1.38		
	N	39	15	28	66	23		

* < .05
** < .01
\+ < .001
\++ < .0001